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AIR FORCE
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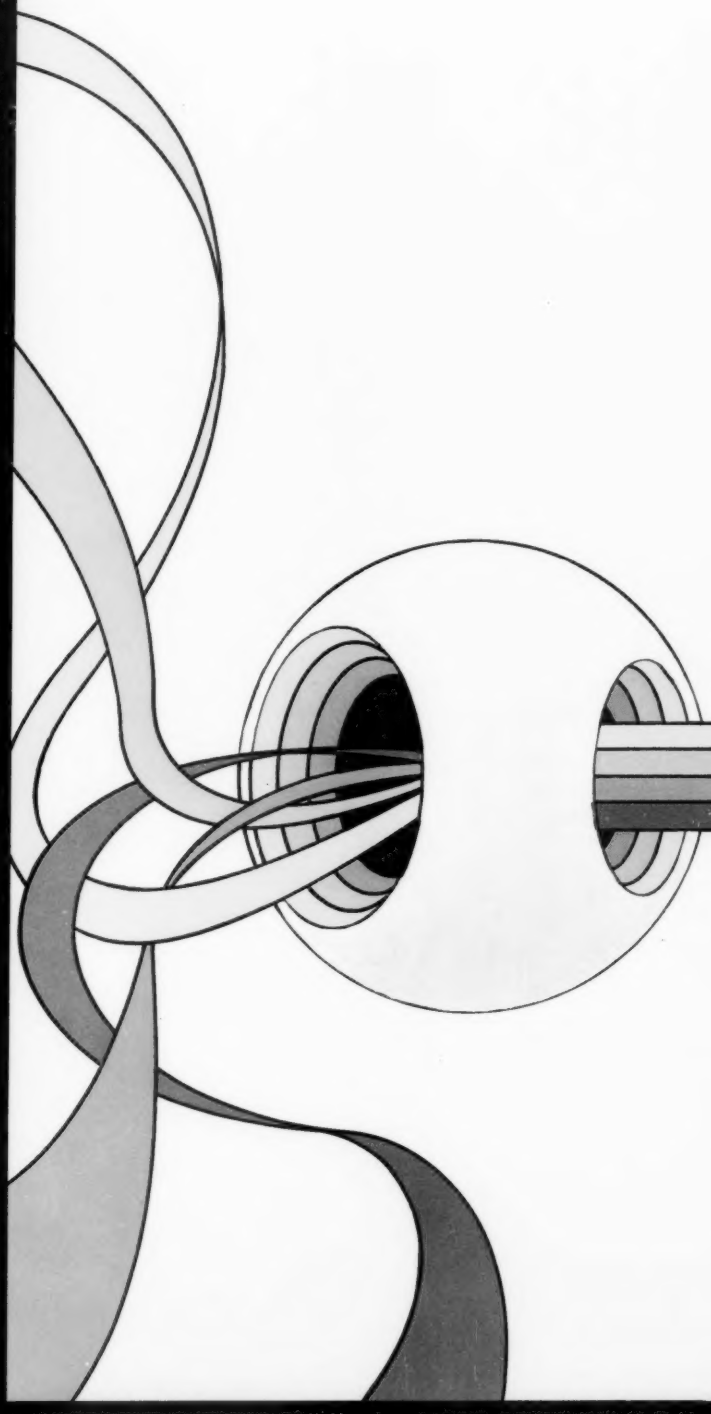
QUARTERLY



BASE LEVEL MANAGEMENT

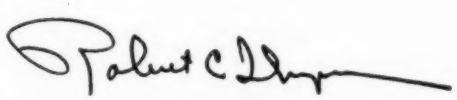
a systematic approach to managing, analysis, and problem solving.

From the Director

That's What It's All About

In a recent speech our Chief, General Jones, noted that the Air Force has ". . . maintained strength and solid professional footing through a full decade of cutbacks—through some tortured moments in Vietnam, through some rough fiscal weather and the shadow of energy limitations." In summary, General Jones was saying that today's Air Force is better managed and manned. Our Engineering and Services people can be proud in knowing that they have played a key role in making our bases a better place to live, work and play. Our people have learned to practice the profession of management. We have enhanced and simplified base level management systems to allow more freedom of thought and individuality in approaches to work accomplishment. We have pushed for more delegation and decentralization of authority. And finally, we have improved communication, coordination and cooperation across the entire base support spectrum, thanks in great measure to the work of our CESMET teams.

Our job is far from finished. The emphasis on better management must continue. Our "family" of Engineering and Services people, spread across the world in various organizations and levels of command, must have as its one main objective the improvement of base level management. After all, that's where our end product—service—actually meets the customer. We must continue to improve by simplifying the way we do business, and by questioning antiquated procedures. We have to communicate better, manage our resources more effectively, be more productive and make our systems work to produce results. I solicit your total involvement in helping us to continue to improve base level management. If you give your best, we will continue to give more than our fair share in enhancing that strength and solid professional footing referred to by General Jones—and that's what it's all about.



ROBERT C. THOMPSON
Major General, US Air Force
Director of Engineering & Services

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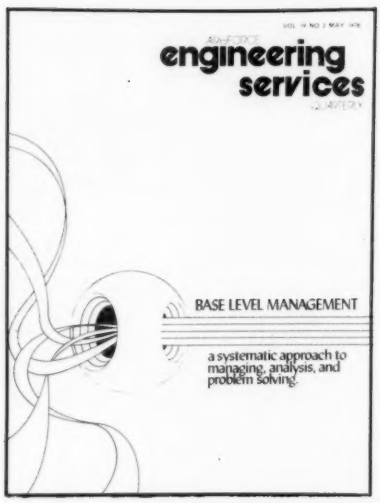

EDITORIAL STAFF
George K. Dimitroff
Editor
Civil Engineering School
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Art Editor
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Editorial Assistant
Civil Engineering School

CALL OR WRITE
The Editor, AFIT/DEJ
Wright-Patterson AFB OH 45433
AUTOVON 785-2156

FEATURES

2 **Base Level Management Plan**
by Maj Robert J. Courter, Jr, PE

6 **Techniques for Financial Management**
by Lt Col Arthur T. Stellmach, PE

10 **Quality Control—Quality Assurance for Service Contract Surveillance**
by John J. Leib, PE, and Capt David G. Beers

17 **Material Support**

21 **Tips for the Base Services Officer**
by Col John L. Perry

23 **Vehicle Management**
by Maj Roosevelt J. Lewis, Jr

26 **Managing Construction Management**
by Maj Daniel E. Paterson, PE, and Capt William C. Mason, EIT

30 **The ALaCarte System**
by Capt James P. Blanco

32 **Base U-Fix-It Store**
by Lt Col James L. Clowers, EIT, and Carl W. Andrews

34 **The RMP**
by Capt P. J. Toussaint and MSgt Louis Collachi

DEPARTMENTS

IFC. From the Director **16. Current Emphasis** **37. Worth Noting**

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BASE LEVEL MANAGEMENT PLAN
a systematic approach to managing, analysis and problem solving

by Maj Robert J. Courter, Jr, PE

The Situation

Until recently there has not been a systematic way to actually solve identified and validated base level management problems that require more than a quick "fix." We are relatively good at evaluating and finding problems. However, unless someone within the Directorate of Engineering and Services (PRE) staff possessed the skill and experience needed to solve a particular problem, we were forced to shelve it or turn to an expensive workshop for a solution.

Other conditions are present that also need attention. Our Engineering and Services **family** of organizations has grown in the past few years. Our **family** now includes the PRE staff, major command Engineering and Services staffs, Air Force Engineering and Services Agency (AFESA), Civil Engineering and Services Management and Evaluation Teams (CESMETs), Inspector General (IG) teams, PALACE Blueprint, the Civil Engineering School, technical training centers—in short, wherever Engineering and Services people are assigned. This growth and decentralization require new and improved communication and coordination. A basic need was the creation of a common direction and a clear, concise description of the most important issues facing our diversified group of organizations.

The Management Branch (AF/PREMA) is chartered with the overall direction and approval of Base Level Civil Engineering Management Policy. It is the focal point for orchestrating solutions to base level management problems and issues. The people within the Branch also serve as consultants to the Director and all Directorate divisions on management actions, systems, programs and new initiatives.

Somehow we had to design a process to systematically solve base level problems on a continuing basis. We also had to harness the vast amount of experience and talent available in our **family** to produce solutions to known problems while aiming in a single direction. Our answer to this dilemma came in a document called the **Base Level Management Plan.**

The Plan

While the **Base Level Management Plan** (referred to henceforth as **The Plan)** addresses a wide range of areas involving future development and organization, we will discuss only two major parts entitled **Direction** and **Process.**

Direction

The Plan establishes a framework for the articulation of a unified direction and the development of cross communication within the family of Engineering and Services organizations. The first step was the preparation of the following new mission statement of all of Engineering and Services.

"Provide civil engineering and services forces ready to respond to all contingencies. Efficiently and effectively maintain, repair, construct and manage Air Force real property facilities and provide quality services to insure USAF operations are fully supported."

The mission describes our scope of operations in broad terms and provides a brief summary of our worldwide responsibilities which are applicable to all levels of command through the spectrum of peace to war.

The second step was the formulation of Engineering and Services goals. The goals shown in **Figure 1** are brief statements of direction. They support the most critical aspects of our mission and establish the key areas where maximum efforts should be focused. Both the mission statement and goals are subject to further refinement as conditions change.

The mission statement and goals provide the basis for objectives. Each part of the Engineering and Services family of organizations should determine what it must do to support the goals. Objectives can then be developed based upon local issues, needs and problems which affect or support the goals. The objectives should be specific and describe some desired result. They should be few and custom-fit to the particular location and organization. Review of the goals and participation in the development of the objectives by

Figure 1: Engineering and Services Goals.

1. IMPROVE READINESS CAPABILITY

Insure the execution of operation plans are not degraded by lack of engineering or services capability. Determine wartime manpower requirements. Insure every military and civilian member has a wartime job, knows what it is, and is trained and equipped to perform it. Provide the equipment, facilities and passive defense measures necessary to the conduct of wartime operations. Promote research and development of improved wartime capabilities and create positive command and control of our forces.

2. IMPROVE ENERGY EFFECTIVENESS

Seek more energy efficient ways to accomplish daily requirements. Reduce energy consumption through education, metering, load shedding, design, alternate energy sources, and reward programs.

3. INCREASE PRODUCTIVITY

Display a positive, "I care" attitude. Motivate our people by first providing them with meaningful jobs and the appropriate training, then reward them when they perform well. Increase the availability of direct manhours through improved management, consolidations, revised procedures, and the use of manpower efficient equipment.

4. IMPROVE CUSTOMER SERVICE AND SATISFACTION

Provide a faster, higher quality, and more cost effective response/product. Will require increased productivity and expanded customer, civil engineering and services education programs.

5. IMPROVE THE QUALITY OF LIFE

Decisions which affect people should include consideration of quality of life. Evaluate program and project development in terms of economic, environmental and sociological impacts. Protect, conserve, and effectively use our natural resources.

people at all levels within the organization should be encouraged. This will produce not only a sense of involvement and commitment to the objectives but also expand our worldwide awareness of the key issues and future direction of Engineering and Services.

Process

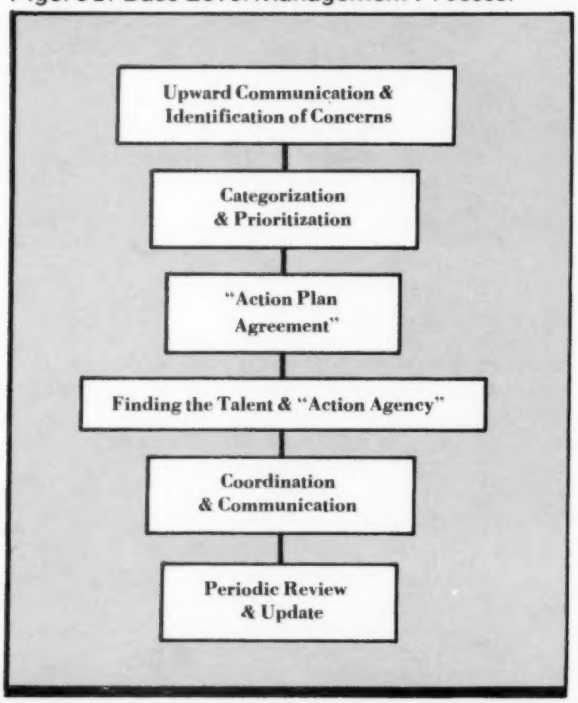
The Plan establishes the **process,** resources and organization necessary for the systematic resolution of base level management **concerns** on a continuing basis. A **concern** can be:

- **A known problem;**
- **A symptom of something wrong, lacking or needed;**
- **An innovative idea.**

In all cases, a **concern** involves effort beyond a quick solution, investigation or testing, and a product which will improve an operation. The process described in The Plan is shown in **Figure 2.**

Upward communication and identification of concerns are the foundation for the process. As a starting point we identified 52 separate base level concerns extracted from the input of many different organizations including the Air Staff, major command Engineering and Services staffs, the Air Force Civil Engineering Center, the Air Force Institute of Technology Civil Engineering School, CESMET and IG teams. The concerns are specific and are often identified by more than one source. In this initial step of the process as in follow-on steps, we relied upon input and involvement from the vast amount of talent and experience **in the field.** Thus far, the concerns have mostly been restricted to civil engineering base level management areas that are within the charter of the Management Branch. However, the same process described herein can be applied to other areas of concern involving project programming, design, environment, comprehensive planning and services at all levels of command.

Figure 2: Base Level Management Process.


Upward Communication & Identification of Concerns
Categorization & Prioritization
"Action Plan Agreement"
Finding the Talent & "Action Agency"
Coordination & Communication
Periodic Review & Update

Categorization and prioritization were then necessary to proceed in an orderly manner and to determine the **vital few** concerns. The 52 concerns were categorized into 15 **areas of concern, Figure 3.** As you can see, each **area** is rather broad in scope and involves a wide range of subjects. The **areas of concern** are then placed in priority sequence. This gave us some basis for determining which group of concerns should precede others in importance. The concerns were then individually ranked. No attempt was made to resolve all the concerns at once. The vital few were attacked first and the others fell into place as time and resources permitted.

This brings us to the next step of **finding the talent and action agency.** It became apparent that the resources present in the Management Branch in terms of time, personnel and experience were not sufficient to provide for prompt resolution of the concerns. We, therefore, turned to a previously untapped resource of ability and knowledge, that of the experts throughout our **family** of Engineering and Services organizations. We matched a concern with an individual in the field, a known expert in a particular area. The organization for which the individual works then becomes an **action agency** responsible for producing the analysis, study and recommended solution to a particular concern. The Management Branch serves as the focal point for initiating and providing review and approval. The **action agency,** in particular the individual expert responsible, directs, conducts and coordinates the study effort.

Figure 3: Areas of Concern.

- Work Force Productivity
- Control & Management of Recurring Work
- Money Management
- Improved Supply Support and Management
- Work Identification and Planning
- Education
- Personnel Assignment
- Engineering Design Work Planning
- Work Scheduling/Production Control
- BEAMS—Use and Direction
- Use and Future of Industrial Engineering
- Vehicle Management and Support
- Contingency BCE Work Control Procedures
- Base Livability
- Layered Evaluation and Criteria

In no manner will this process result in a tasking of work to the commands, bases or other parts of our **family.** Assistance from recognized experts will be totally voluntary. We ask, not task. In addition, approval will be obtained from the organization's top executive.

Once an individual and action agency are determined, an **action plan agreement** is prepared and negotiated. The format for the agreement is shown in **Figure 4.** The **area of concern** or subject area is identified along with the **individual responsible,** his or her organization (the action agency), and the PRE contact. Then an agreed upon statement of the specific **concern** is written. An **objective** is then prepared along with an **action plan** which outlines the steps necessary to achieve the desired result. The contents of the written agreement are obtained only after long discussion, understanding and verbal agreement are reached between the person responsible and the PRE contact. The agreement then serves as a record of understanding between the two parties. In many cases, although only one individual and action agency are named at the top of the agreement, several other individuals and organizations are identified in the action plan to lend assistance and support to the total effort.

Coordination and communication play important roles toward successful completion of the agreements. The PRE contact named on the agreement performs the role of **facilitator** for the action agency. If outside support and input are needed from another organization, he obtains them. If problems arise during the study effort, he tries to remove the barriers.

Communication is also necessary to the rest of the organizations in our **family** relative to what concerns are being worked by which action agency and the respective status of the agreements. This enables everyone to know where to channel helpful information and assistance toward resolution of a particular concern.

Periodic review and update of concerns will be accomplished on a continuing basis. The environment in which we operate the business of Engineering and Services is more complex then ever. The issues and concerns of today are different than those of yesterday. Future concerns will also change. Both the **direction** and **process** just described, along with the total Base Level Management Plan, are dynamic with continuing evaluation and revision of mission statements, goals and concerns occurring as changes take place in the resources, challenges and needs of the time. Therefore, the upward communication of concerns will be periodically obtained along with reevaluation of priorities. The concerns and issues being worked will always be those that are most vital.

Figure 4: Action Plan Agreement.

AREA OF CONCERN: (From the Base Level Mgmt Plan)
Person Responsible _____
Unit/Org _____ **(of person responsible)**
PRE Contact _____ **(Name)**
SUB-CONCERN: (Be as specific as possible. Address the real issue, problem, challenge or threat.)
OBJECTIVE: (Describe the result desired. Ask if it is precise, concise, challenging, realistic, consistent and in quantitative terms.)
ACTION PLAN:

WHAT	WHO	WHEN
1. (Milestones needed to attain the objective. Write in good objective format.)	(Individual's name & org.)	(Specific date.)

What Can It Do For You?

Before we discuss what The Plan can do for you, let us talk about what you can do for it. First, we need to get everyone in our business to look closely at the new mission statement and goals. Then, we need to develop local objectives to support those goals. Secondly, you should participate in the process designed to resolve base level concerns. Help us identify concerns that plague your operation. Make sure we know about them. Finally, if you think you have the expertise in an **area of concern,** volunteer to take on an action plan agreement.

What can it do for you? Plenty! The Plan can provide you with a better understanding of our mission and our future direction. The identification of goals provides us with an awareness of future relevant challenges facing our organization. It can also produce a guide for the actions of you and the approximately 90,000 other men and women in our business.

While the Air Force gains from harnessing the talent and expertise in the field through the use of action plan agreements, other benefits and rewards are available to you. At times people suffer from the **large organization syndrome** feeling

(Continued on Page 9)

MAJOR COURTER *is a Management Engineer, Management Branch, Operations and Maintenance Division, Directorate of Engineering and Services, Headquarters US Air Force. He earned his bachelor's degree in industrial engineering from Rutgers University and his master's degree in management from Central Michigan University. He is a registered Professional Engineer in Texas.*

Editors Note: This article presents a few useful techniques to assist Funds Managers. For more comprehensive guidance on financial management, see "A Guide for the Resource Advisor." Copies can be obtained from your Base Budget Officer or by writing to HQ USAF/ACM, Washington, DC 20330.

"Hey Charlie, we need to replace the cooling tower at Wing Headquarters before the air conditioning season starts. Have you got $6,000 for an emergency contract!"

"Charlie, I'm almost out of shoes and blades for the rollover plows. We need to get some in quick before the next snow. I figure they shouldn't cost more than about $4,000. Oh, we also need another 1,000 bags of urea—that will run you $14,000!"

Poor Charlie! The requirements never stop and the prices keep rising. And last year—WOW! Did he ever get chewed out for running out of money for benchstock near the end of the year.

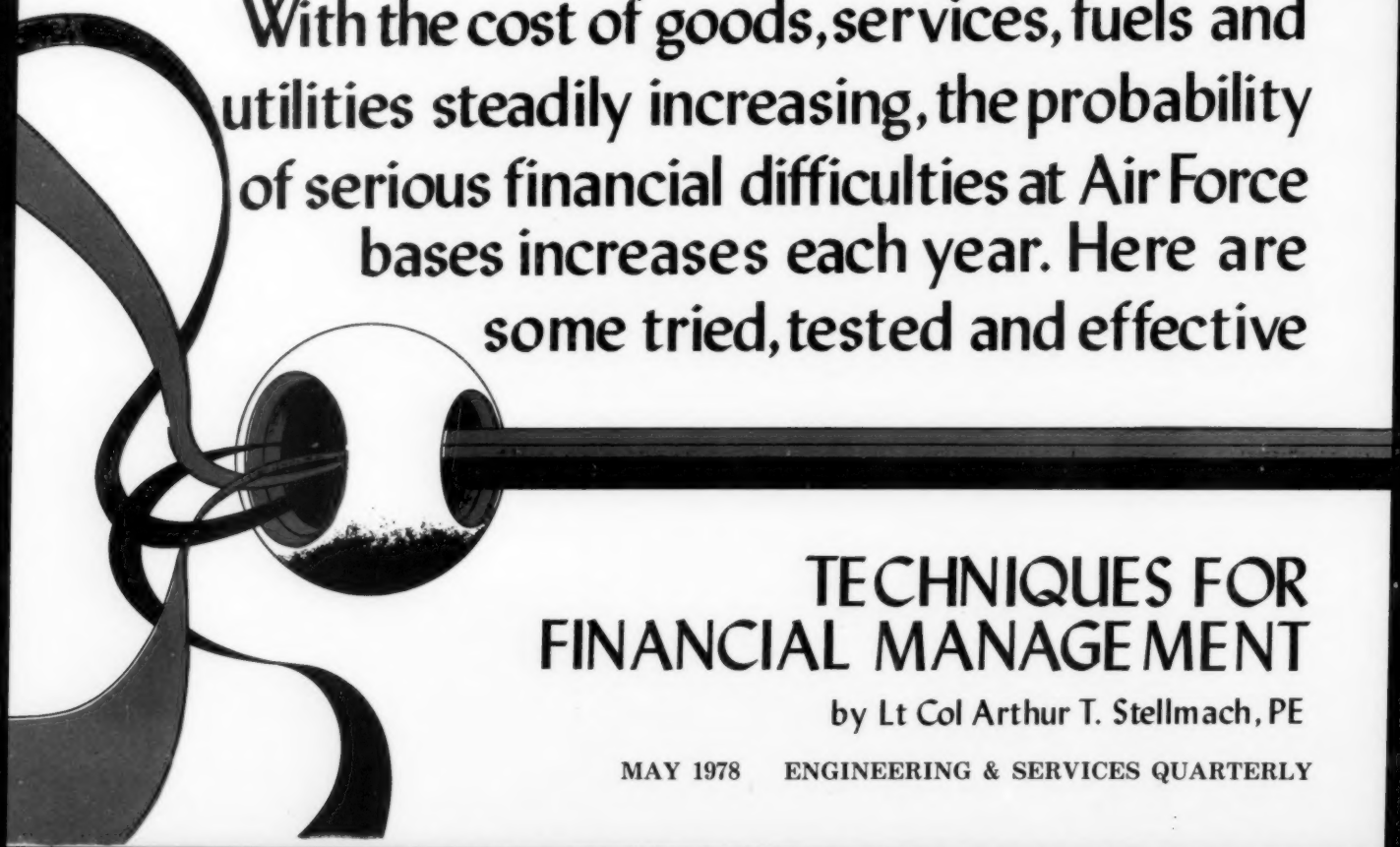
Unfortunately, Charlie is not alone. Far too often, financial management at base level consists of moving funds from one pocket to another to solve the immediate problem with only a vague hope that somehow things will all balance out by the end of the year. And most times they do. But occasionally—well, "Poor Charlie!"

With the cost of goods and services, and don't forget fuels and utilities, steadily increasing, the probability of serious financial difficulties at your base increases each year. What is needed to cope with these problems is financial management.

"Financial Management! Sure, everyone knows that. Absolutely! Good old F-M. Ahem . . . Hey look, let me level with you. I really try to stretch our budget, but how can I manage when these unknown requirements keep popping up?"

Well as the old saying goes, "You can't do the job without the proper tools." And in the case of managing money, perhaps "proper technique" is a better phrase. There are probably as many different techniques as there are Financial Managers. The techniques which will be described here are not necessarily the best for you or your base since a good technique must not only help the manager manage, it must also help the manager communicate financial problems to the corporate management body, i.e., the Facilities Board, for its decisions and actions.

The Facilities Board must be aware of the financial problem and be adequately prepared to make some tough decisions. For instance, "Should we pay the increased cost of Custodial Services or reduce the scope of services and use the money for carpeting dormitories?" And another example, "If each of you commanders will really get out there and actively support energy conservation, maybe we can generate enough fallout from utilities to cover the materials for these deferred



With the cost of goods, services, fuels and utilities steadily increasing, the probability of serious financial difficulties at Air Force bases increases each year. Here are some tried, tested and effective

TECHNIQUES FOR FINANCIAL MANAGEMENT

by Lt Col Arthur T. Stellmach, PE

improvements." Without communication, few effective actions can be taken to cope with financial problems.

Now for a few techniques. The most common are "Straight-Line," "Milestone" and "Known Requirements."

The "Straight-Line" technique can be used best where a continual flow of expenditures exists throughout the year such as with Civil Engineering Supplies and Vehicle Fuels. This technique assumes a constant rate of expenditure of available funds and can be plotted cumulatively as a straight line as shown in **Figure 1.** Then, as one progresses throughout the fiscal year, actual expenditures can be plotted to compare the actual versus budget.

At any point in the year, one can then project what the final end-of-year costs will be. This is done mathematically by first calculating the cumulative Daily Spend Rate (shown on the bottom of the chart). Multiplying the Daily Spend Rate times 365 days provides the projected end-of-year cost.

If it appears, as shown in the example, that the projected total requirement will exceed available funding, then two options must be considered:

- **Can additional funds be made available?** or
- **What action can be taken to reduce expenditures?**

This of course is a management decision which may well involve the Facilities Board and Base Budget Officer.

Regarding bench stocks, a Separate Project Fund Management Recrod should be established to preclude the early receipt of other materials from exhausting bench stock funds.

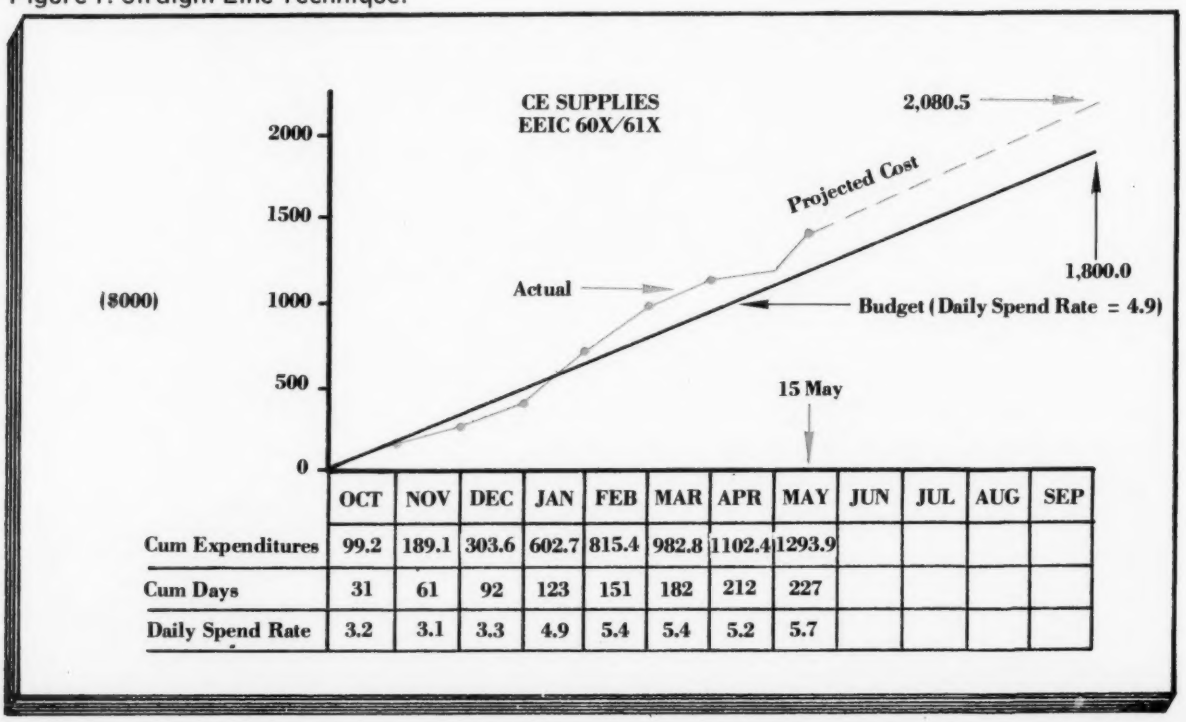
While simple to use, the "Straight-Line" technique cannot be applied where the rate of expenditure varies through the year such as with Heating Fuels and to a lesser extent, Electricity and other utilities. For these elements of expense, the "Milestone" technique should be used. This technique should be developed in table form as shown in **Figure 2** but should also be plotted graphically for communication purposes. The basic principle employed is that projected costs are based on historic consumption rates expressed in terms of cumulative percentage of total annual consumption.

"Hey Charlie, what did he say??"

Well, let's start by looking at Column A, **Figure 2,** which shows cumulative consumption for the prior fiscal year. Ideally, we should try to develop average consumption data for at least two or three years to eliminate some of the wild fluctuations in our projected consumption column. But even if unavailable, we can still build a useful projection tool, recognizing that the fluctuations will not settle down until a few months have passed.

Once a cumulative consumption pattern is established, Column A, the milestone percentages can be calculated, Column B. These milestones tell us what we historically have consumed, i.e., through the month of May we used

Figure 1: Straight Line Technique.



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Cum Expenditures	99.2	189.1	303.6	602.7	815.4	982.8	1102.4	1293.9				
Cum Days	31	61	92	123	151	182	212	227				
Daily Spend Rate	3.2	3.1	3.3	4.9	5.4	5.4	5.2	5.7				

FUEL OIL # 6

MONTHS	A CUMULATIVE CONSUMPTION (000 GAL)	B CUM %	C MONTHLY CONSUMPTION (000 GAL)	C MONTHLY COST ($000)	D CUMULATIVE CONSUMPTION (000 GAL)	D CUMULATIVE COST ($000)	E PROJECTED TOTAL CONSUMP (000 GAL)	F COST PER GAL ($)	G PROJECTED TOTAL COST ($000)
OCT	280	4.9	254	76	254	76	5,190	.30	1,557
NOV	725	12.6	770	244	1,024	320	8,130	.32	2,594
DEC	1,513	26.3	593	190	1,617	510	6,150	.32	1,961
JAN	2,217	38.6	1,469	536	3,087	1,047	7,997	.37	2,864
FEB	3,428	59.6	800	307	3,887	1,354	6,522	.38	2,355
MAR	4,040	70.3	616	231	4,503	1,585	6,406	.38	2,308
APR	4,644	80.8	357	139	4,860	1,724	6,015	.39	2,174
MAY	4,860	84.6	378	147	5,238	1,871	6,191	.39	2,243
JUN	5,131	89.3							
JUL	5,284	91.9							
AUG	5,392	93.8							
SEP	5,748	100.0							

Figure 2: Milestone Technique.

84.6 percent of what is consumed for the entire year. As the year progresses, we can track monthly consumption and cost, Column C, and develop the cumulative data in Column D.

The projected consumption data in Column E is derived by dividing Cumulative Consumption by the milestone percentage, i.e., for May:

$$\text{Projected Total Consumption} = \frac{5{,}238}{.846} = 6{,}191 \text{ k gal}$$

The last step is to determine the projected cost for the entire year. Here a degree of caution is necessary particularly if the unit rate is changing as shown in Column F of our example. A straight multiplication of the current rate (39 cents per gallon) times the projected Total Consumption (6,191 k gal) would give us a Projected Total Cost of $2,414, but this is inflated since we have purchased much of the fuel used-to-date at a significantly lower rate.

The method that must be used is as follows:

Current Projection	6,191	k gal
Less Cum Gal Consumed	-5,238	k gal
Remaining Requirement	953	
Times Current Rate	x .39	$/gal
Est Cost of Remaining Requirement	$372	
Plus Cum Cost-to-Date	1,871	
Projected Total Cost	$2,243	

Here are a few final comments on the Milestone technique. The wild fluctuations in annual projec-

Figure 3: Known Requirements Technique.

CE CONTRACT SERVICES
($000)

EEIC	AEA	OBLIG	COMMIT	TOTAL O&G	BAL
531 Custodial	538.3	538.3	0	538.3	0
533 Refuse	297.5	297.5	0	297.5	0
533 Other	349.5	66.8	121.5	188.3	161.2

REQUIREMENTS	COST	CUM. COST	
1. Tree Topping, No. End West Runway	70.0	70.0	
2. Change Order, Alarm Contract	13.0	83.0	
3. Change Order, Air Cond. Maint. Contract	10.0	93.0	
4. Static Load Test Base Hoists	12.5	105.5	
5. Emerg. Contract Assist- -Snow Removal	20.0	125.5	
6. Est. Unknown Emergencies	35.0	160.5	FUNDED
7. Demolition—3 Bldgs	87.6	248.1	UNFUNDED

EEIC	DESCRIPTION	SUGGESTED TECHNIQUE
480	Electricity	Milestone
53X	Contract Services	Known Requirements
6XX	Supplies	Straight Line
642	Heating Fuels	Milestone
- - -	All others	*

*Other Elements of Expense are generally much smaller than the above and do not require projection/analysis. Solve the problems as they arise by transferring funds between EEICs. Concentrate on the large accounts.

Fig. 4: Different Techniques for Different EEICs.

tions shown in **Figure 2** are what can be expected when only one year's historic data are used as in the case illustrated. Further, additional variations occurred since the data were upon Gallons Delivered rather than actually **consumed** at the central heating plant. Despite these known error producing inputs, the technique was accurate to within 6 percent by the end of the fifth month. The final consumption and cost for the year (not shown on the table) were 6.151 k gallons and $2,215. The same technique was used to project consumption and cost for Purchased Electricity with somewhat better results.

The last technique is perhaps less methodical and can have many variations. We call it the "Known Requirements" technique. Call it what you will, the essence of the technique is to show the funds remaining and the known requirements still to be funded. This can best be used with elements of expense which are expended on an irregular basis for finite requirements such as Civil Engineering Contract Services.

As shown in **Figure 3,** the chart is a combination of current budget data and a priority list of requirements. By showing a cumulative total column, a line can be drawn to show what can and cannot be funded with the available funds remaining. This, by the way, is an excellent slide for the Facilities Board and generally leads to an active discussion of priorities.

And remember Charlie's complaint about unknown requirements popping up? Why not budget for the unknown as shown on line 6? It may not be enough for the catastrophies, but it sure saves worrying about the small disasters!

Here are some words on the overall concept of funds management which can be beneficial. First and foremost, **you need to develop a good working relationship with the Base Budget Officer.** He can make your job a lot easier by helping you keep your books straight and, occasionally, by even coming up with the money to bail you out of a sticky problem. Conversely, we in Civil Engineering assist the Budget Officer by helping him manage a large portion of his total budget.

Second, **you need to track where you are during the fiscal year and more importantly, have a good estimate of what your final end-of-year costs will be.** Here is where the techniques discussed above or similar techniques will be useful, **Figure 4.** If sufficient funds are not available, as will probably be the case, then we need to identify those items or programs which can be curtailed or deferred.

Last but certainly not least because here's where the action is, **COMMUNICATE.** Develop slides or charts showing your projected problem areas and use them to instigate top level decision making in the Facilities Board and Budget Management meetings. The civil engineering budget and its problems belong to the whole base. Tell them about it.

Financial Management? Try it—it's fun! You too can learn to live on $25,120.55 per day. C&S

COLONEL STELLMACH *is Chief of Programs, 76th Civil Engineering Squadron, Andrews AFB, Maryland. He earned his bachelor's degree and his master's degree in industrial engineering from the University of Illinois. He is a registered Professional Engineer in Ohio.*

BASE LEVEL MANAGEMENT

(Continued from page 5)

under-utilized, dependent, unrecognized, over-supervised and less able to clearly see the connection between their work and the overall betterment of the total organization. There are others that are involved in meaningful work but are looking for additional opportunities to excel.

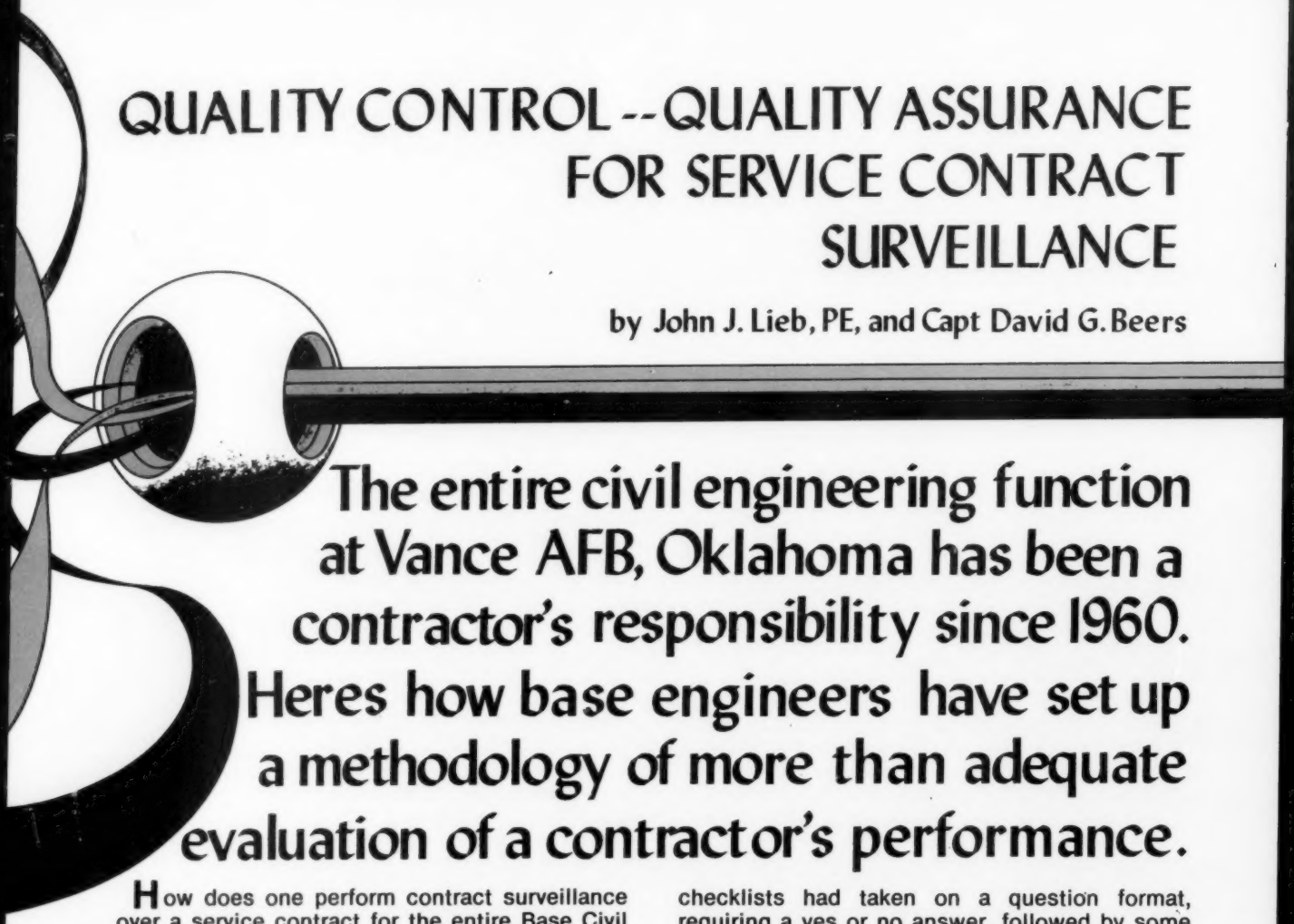
There seems to be a connection between how a job or work task is designed and such things as motivation, productivity and quality of work life. Action plan agreements are designed to afford you opportunities for:

- Increased participation in problem solving and decision making;
- A greater sense of self responsibility for job accomplishment;
- Involvement in a meaninful piece of work above and beyond the call of duty;
- Personal control for how the job is done and the pace at which it is done; and
- High level individual recognition for top performance.

Base Level Management is our biggest concern. It demands a systemtatic approach to managing, analysis and problem solving. The manpower resources within the Engineering and Services **family** of organizations need improved intercommunication and direction in one united effort. We must set the example by following organized processes to resolve our most pressing concerns. The Base Level Management Plan sets the stage and orchestrates all these actions. C&S

QUALITY CONTROL -- QUALITY ASSURANCE FOR SERVICE CONTRACT SURVEILLANCE

by John J. Lieb, PE, and Capt David G. Beers



The entire civil engineering function at Vance AFB, Oklahoma has been a contractor's responsibility since 1960. Heres how base engineers have set up a methodology of more than adequate evaluation of a contractor's performance.

How does one perform contract surveillance over a service contract for the entire Base Civil Engineering function when the essence of the Statement of Work is "operate and maintain the base facilities?" How does one determine performance? These questions came to mind shortly after we started working at Vance AFB, Oklahoma, where the entire Civil Engineering function has been a contractor's responsibility since 1960. (A part of an "umbrella type" contract where the contractor is also responsible for aircraft maintenance, supply, vehicle maintenance, special services and other support functions.) Many discussions with our colleagues added reinforcement to these questions. A construction contract specification leaves little room for doubt; the TRCO (Technical Representative for the Contracting Officer) pretty well knows what the contractor must do to meet the terms of the contract. Our 10 page Statement of Work leaves much more to judgment and interpretation in determining if the contractor is performing in accordance with the contract terms.

Prior to 1977 surveillance was oriented toward what, for lack of better words, one would refer to as the old Inspector General and the self-inspection approach. Over the years the checklists had taken on a question format, requiring a yes or no answer, followed by some specific reference such as **AFM 85-1,** paragraph 3-4a(2). Cursory looks at many such checklist items revealed that the contractor's action or lack of action has little or no effect or bearing on his overall performance. Such checklist items were often referred to as "beating the ants to death while the elephants rumbled on!" These checklist items were of the type the contractor might want to use for his own internal management; they did not seem to meet the needs of service contract surveillance.

The accustomed result of this method of surveillance caused the contractor to correct the written identified deficiency—no more, no less. To test a hypothesis based on this statement, a deficiency in a particular area would be written up; a similar deficiency in that same area would also be noted but not put in writing or reported to the contractor. The results were as hypothesized: **The contractor remedied only those deficiencies that were identified in writing.** Actually, the TRCOs were performing quality control for the contractor, assisting him in identifying work deficiencies. (Technical Representative for the Contracting Officer as used here means TRCO, Alternate TRCO

and Contract Monitor as defined in **AFR 70-9,** 9 January 1976.)

The General Provisions of the Service Contract (Inspection of Services, 1971 November) provided the clue as to what is intended in the way of surveillance for such a contract:

"All services . . . shall be subject to inspection and test by the Government, to the extent practicable at all times and places during the terms of the contract." and **"The contractor shall provide and maintain an inspection system acceptable to the Government . . ."**

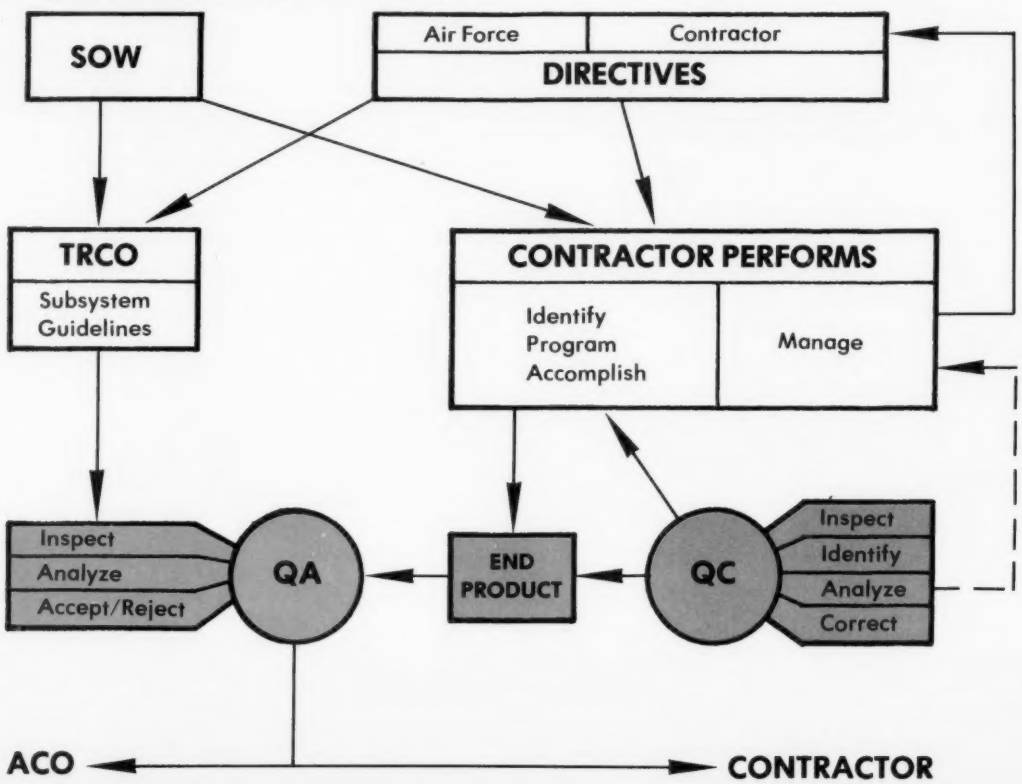
Specifically, two inspection systems are spelled out here, the former being performed by the Government and the latter by the contractor. Envision the contractor's system as a series of actions, including possibly managerial or organizational changes, to effect desired corrections to assure an acceptable product. At Vance AFB the acceptable product means well operated and maintained real property facilities and related services. **Figure 1** depicts this idea; label this inspection system quality control.

Conceding the inspection responsibility for assuring a quality acceptable product to the contractor, the Government's inspection system becomes simply a matter of random inspections of the several civil engineering functions, with analysis of the product produced against some product standard. The product is either accepted or rejected. Label this inspection system quality assurance, **Figure 1.** The Armed Services Procurement Regulations (ASPRs) substantiate this view in that they identify quality assurance as a function by which the Government determines whether a contractor has fulfilled his contract obligations pertaining to quality and quantity.

Further research turned up a letter from the Air Training Command Procurement Office. (HQ ATC/LGP, 9 June 1975, Enforcement of Contract Quality Control Requirements.) The substance of the letter was that, in terms of the ASPRs and the General Provisions of a Service Contract, quality control is the **contractor's** responsibility; quality assurance is the **Government's** responsibility. The letter propounded this change: "To effectively shift the responsibility for performing quality control to the contractor and enable the Government to properly perform quality assurance, the methodology employed by the TRCOs in conducting contractor surveillance needs to be revised." This aptly described the percept being searched for. The letter went on to state what experience at Vance AFB had found to be true:

"The contractor corrects the specific items noted by the TRCO and then continues to perform as usual until other deficiencies are brought to his attention again by the TRCO."

Figure 1: Service Contract Inspection Systems.



Another pertinent remark in the letter stated that "Under quality assurance, the TRCOs monitoring the program should be concerned with evaluating the end results of the contractor's performance." A contract surveillance concept began to gel. The two questions were restated: "How does one perform quality assurance of a civil engineering function where the work and workforce are spread over a 1,000 acre air base?" How does one evaluate the end results (product)?

Many thoughts came to mind as possible approaches or answers to these two questions, but none appeared to be feasible. Each avenue probed seemed to point toward either the construction-oriented specification or that clear, clean-cut end result (product); i.e., the service was specifically identified and easy to measure. These criteria did not adequately fit the service contract requirement for "evaluating the end results of the contractor's performance."

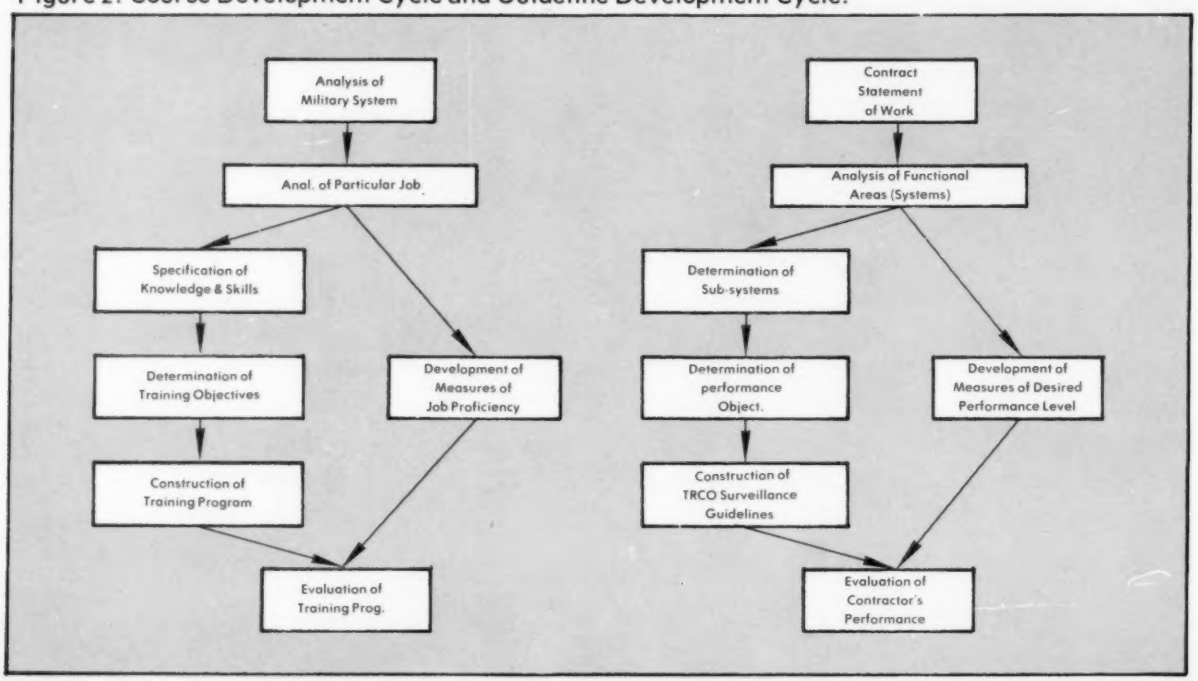
One of the authors posed this question: "Why not adapt the course development technique learned and used while teaching a Facilities Engineer Management Course at the US Army School (Europe) to the situation at hand?" The more the two authors thought about the subject and discussed this method, the clearer became their views of quality assurance surveillance. They equated "Analysis of the Military System" to the contract Statement of Work, **Figure 2.** (Techniques in Course Development, M. P. Crawford, December 1966, George Washington University.) A consideration of the total system, as described in the Statement of Work, seemed to be the optimum place at which to begin defining surveillance guidelines.

Figure 2 carries the analogy through the entire cycle. Analysis of functional areas of the Base Civil Engineering operation evolved to "systems." Originally, 14 systems were identified which covered the entire operation, but 12 were fixed on as being adequate, **Figure 3.** In like manner, the original 76 sub-systems were reduced to 33. **Figure 4** provides an example of some of the systems and their sub-systems. As our guidelines were developing, these numbers of systems and sub-systems seemed to effectually cover all the areas of the civil engineering operation and also provided satisfactory surveillance coverage. The program is still open to change, and as it becomes fully operational, second thoughts may develop. The framework is there for expansion, if the need arises.

Determination of performance objectives for each sub-system was imprecise. Unfortunately, they had only been expressed as maintain/operate/service the sub-system in accordance with the Statement of Work and governing directives. A solution appeared no closer than when the problem was first approached.

The authors again reverted to the training objective parallel. Robert G. Smith, Jr, in his discussion of course (training) objectives in his book, **The Development of Training Objectives,** provided an example of an obscure objective, then asked the following question:

Figure 2: Course Development Cycle and Guideline Development Cycle.


Analysis of Military System
Anal. of Particular Job
Specification of Knowledge & Skills
Determination of Training Objectives
Development of Measures of Job Proficiency
Construction of Training Program
Evaluation of Training Prog.
Contract Statement of Work
Analysis of Functional Areas (Systems)
Determination of Sub-systems
Determination of performance Object.
Development of Measures of Desired Performance Level
Construction of TRCO Surveillance Guidelines
Evaluation of Contractor's Performance

"But what is really required? With an objective as vague and imprecise as that of the example, no one can tell."

Smith explained further that the only place where these vague terms should be used in describing objectives is in statements summarizing more explicit, clearer statements of objectives. In order to use time productively, the approach was taken that construction of the guidelines would provide the more explicit statements of each objective. The ambiguous terms of the performance objectives, that is, maintain, operate, service were kept; however, the statements (guidelines) would indicate more precisely what actions had to be completed in a satisfactory manner (and the contractor then judged to have performed in accordance with the provisions of the contract). The end products of those sub-systems would then be the objects of evaluation.

In discussing the construction of a training program, Crawford pointed out that the content of the program is often little more than a reshuffle of old subjects in a different order, or new subjects added on the basis of opinion, vague recollections of past experiences or pressures of one sort or another. We were determined to avoid such pitfalls in developing our guidelines. Crawford further stated that if the steps he described, **Figure 2,** have been properly accomplished, the construction of the training program (surveillance guidelines) is a straightforward operation; the curriculum (guidelines) content is pretty well defined.

Relating the above thinking to the construction of TRCO guidelines, the authors first studied the Statement of Work, then looked at the old checklists, and studied the governing directives. At this point, all of the TRCOs became more involved because each one had a responsibility to prepare guidelines for a selected number of subsystems. Fairly explicit statements of what they wanted to investigate about each sub-system evolved from this review. These statements provided the guidelines to be used during surveillance of the contract.

It was recognized that it was not feasible to look at everything the contractor does in performing under the terms of the contract, and also, that this was not the intent of the quality assurance program. As was suggested earlier, the guidelines for each sub-system were developed simply to provide the necessary information to make an evaluation of the contractor's performance with respect to that particular sub-system. The guidelines were oriented to end results.

The methodology described here was not used in the formal sense; however, fundamental ideas remained intact and were followed by the authors' office of six people who collectively have 100 years of experience. The entire Guidelines Development Program was generally in the form

Industrial Engineering
Family Housing Management
Engineering and Construction
Fire Prevention and Protection
Real Property-Financial Management
Work Control
Surface Maintenance
Structural Maintenance
Electrical Maintenance
Mechanical Maintenance
Plant Operations
Services

Figure 3: Contracted Systems for Surveillance.

of interoffice notes to each other. As ideas were formulated, they led to discussions between the authors and their colleagues. The outcome was surveillance guidelines as presently used.

A typical sub-system guideline has three sections. The first lists the basic governing directives. The second is **General** and tasks the TRCO to look at the contractor's directives, his personnel and their job knowledge, and their equipment. These items provide an overview of the particular sub-system. The last is **Procedures** and it describes the specific areas to be investigated. Use of this section is predicated on the assumption that the sum of all areas investigated will provide a subjective but true measure of the end product of that sub-system.

A schedule is attached to each guideline. It identifies a month of the year during which time each item of that guideline is to be investigated. A sub-system guideline may have from eight to 22 items listed. For the most part, the month selected to inspect any one item is rather arbitrary. Inspections are spread throughout the year so that a sub-system can be looked at many times during the year. Some items are tied to specific times of the year, e.g., review of Snow Removal and Ice

Figure 4: Typical Sub-systems.

ELECTRICAL MAINTENANCE
Cathodic Protection
Exterior Distribution
Airfield/Security/Street Lighting
Emergency Generator
Interior Distribution
WORK CONTROL
Scheduling-Controlling
In-House Programming
Planning
Vehicle Utilization
Material Control
INDUSTRIAL ENGINEERING
Quality Control

Control Plan and review of Land Management Plan. Where possible, timing of the surveillance is such that the TRCO can look at the planning process as well as the end product. In the words of one item of a checklist, "Visit the planning section to determine what work has been identified, planned, material ordered and scheduled to correct deficiencies of systems/units selected by the random sample. Make field visits to each location to verify planner's work identification. Comment on sufficiency." In this instance, the TRCO looks at evaluating not only work identification and planning, but, by the field check, he also answers the question, "Was the work actually required?" Where possible, it is intended to use sampling techniques in the selection of how much and what part of a sub-system is to be looked at. (The authors feel it is possible to determine, by the random method, the month or months for inspecting each item; but for the time being, we believe that action should be left for a future refinement of the program.)

Is this method of surveillance working?

It is too early to say how effective the program is or will be because it has only been phasing in since April 1977. The real test will occur during Fiscal (contract) Year 78.

Though this surveillance approach has had limited use, it became obvious during the early stages that a more complete coverage of the contract was being achieved.

It has forced the TRCOs to look not only at more facets of the contractor's performance, but also to look at them in a systematic manner rather than in a piecemeal, haphazard fashion as was the previous practice.

An inherent responsibility of the TRCO is to protect the Government's interest. The TRCO must be aware of potential problem areas and identify them early. By virtue of a more systematic surveillance, the TRCO thus minimizes the emergence of an unsatisfactory end product on the part of the contractor.

Since Vance AFB began the quality assurance method, one case has come to light that will explain the remarks above. A random area of the wastewater system was inspected and some blockage of the system was discovered. There was nothing to cause property damage now; however, the potential was there. The deficiency was reported to the contractor in that light. It is presumed that before other parts of this system are inspected, the contractor will have assured himself that it is in good shape from an operational/maintenance standpoint. The satisfactory end product (unrestricted flow) will have been achieved.

The contractor has a copy of each guideline, furnished by the Administrative Contracting Officer (ACO); he, therefore, is aware of Air Force performance objectives. In itself, this should have a positive motivating effect on performance, but it should not encroach on the contractor's management prerogatives. Early in the new contract year (November 1977), a preperformance meeting was held with the contractor to discuss this quality assurance approach. As a result of the meeting, the contractor became aware of the new tack that would be taken in contract surveillance. The model of the program is depicted in **Figure 1.**

You have probably observed that the development of measures of desired performance level, **Figure 2,** has not been discussed. Suffice it to say, it is generally an individual action on the part of each TRCO; remember the years of experience at Vance AFB. In those instances where a TRCO may feel the performance is not satisfactory, he will have a discussion with one or more of his fellow TRCOs before making the final evaluation. Although performance standards are an open link in the surveillance program, they do not create a problem for the experienced personnel at Vance AFB. Nevertheless, bridging this open link of performance level should enhance the quality and effectiveness of the entire surveillance program.

Two particulars regarding the TRCOs who perform quality assurance of that nebulous end product: As the evaluations lean heavily toward the subjective side, the individual (s) must have a **thorough knowledge** of base maintenance functions and be **experienced** because technical and professional judgment plays a major role in these evaluations.

Now back to the ATC letter where the statement was made that for "the Government to properly perform quality assurance, the methodology employed by TRCOs in conducting contractor surveillance needs to be revised." This statement is true! Each TRCO has had to rethink and reorient

(Continued on page 22)

JOHN LIEB *is the Deputy for Civil Engineering, 71st Flying Training Wing, Vance AFB, Oklahoma. He earned his bachelor of science degree in civil engineering from Iowa State University. A registered Professional Engineer in Ohio and Texas, he is a member of several professional societies.*

CAPTAIN BEERS *is the Operations and Maintenance Officer, Base Civil Engineering, 71st Flying Training Wing, Vance AFB, Oklahoma. He received his bachelor of science degree in mechanical engineering from Brigham Young University.*

Chalk Talk

...a synopsis of academic activity to assist personnel

SPECIALTY TRAINING STANDARDS--Selected MAJCOM representatives are in the process of reviewing each career ladder--position description, specialty training standard and content of the Technical Training Courses. Object: To provide you with graduates who can accomplish the tasks normally expected during their first enlistment.

NEW FIRE COURSE--A new course for inspectors in now in progress at the USAF Fire Protection School, Chanute AFB, Illinois. The new course, commenced 16 Mar 78, consolidates and replaces courses 3AZR57170 Fire Prevention Technician and 3AZR57150-9 Installed Fire Protection Systems. Prerequisites for the new course will appear soon in AFM 50-5.

REVEALING STATISTICS--Almost 3,700 AFCE military and civilian managers and professionals have never been to the Civil Engineering School (CES), according to data through Feb 78. This is over half the population counted as eligible to attend. We know that the CES doesn't offer the only education around but if these numbers are representative of the continuing education being received by our top military and civilian personnel, we submit that it isn't enough to keep pace with the dynamic world of Civil Engineering. When did you last recharge your educational battery?

HOW TO FILL QUOTAS--CES occasionally receives the comment from the bases that the student quotas don't appear to be high enough; some people can't get a space to attend a course. We offer two thoughts: Student quotas are indeed limited to about 1,800 students per year but are controlled by the MAJCOMs, not CES; about 3.5 percent of the CES students don't want to be here, don't feel they should be here and generally feel that they were only filling a space by coming to school. Hypothesis: BCE managers are selecting/permitting the wrong people to receive available education.

* * * In view of the preceding notes, would you believe that nearly 100 of our eligible officers and civilians have been to five or more courses (up to eight) at the CES? Question: Are we using available student quotas in a priority way?

CRITICAL COURSES--Which woodcutter can cut more wood: The one who works without stopping or the one who stops occasionally to sharpen his axe? Education can be viewed as the sharpening process but sometimes education can be the axe itself. We suggest that at least two CES courses fall into the second group. The electrical engineering (ENG 571) and heating, ventilating and air conditioning (ENG 461) courses are absolutely critical for your new electrical and mechanical engineering graduates to become effective in a typical BCE assignment.

Directorate of Engineering and Services

Current Emphasis

brief commentary on significant developments

AIR FORCE ENGINEERING AND SERVICES CENTER ESTABLISHED

Establishment of the Air Force Engineering and Services Center (AFESC) at Tyndall AFB, Florida, was announced by the Secretary of the Air Force on 12 April 1978. Specifically, the Air Force Civil Engineering Center and the Civil and Environmental Engineering Development Office, both presently located at Tyndall AFB, will form the nucleus of the AFESC, and certain USAF/PRE functions will be relocated to Tyndall AFB and reassigned to the AFESC. The Air Force Engineering and Services Agency at Kelly AFB will be disestablished and its functions will transfer to Tyndall AFB. The Air Force Commissary Service will remain at Kelly AFB. The Civil Engineering Research function of the Air Force Weapons Laboratory at Kirtland AFB, New Mexico, will be realigned under the AFESC but will remain at Kirtland AFB. Air Force Systems Command will continue to monitor and review all research and development activities of the AFESC. Details of the reorganization will be provided in an article in the next issue of this publication in August.

FY 1981 MCP "PRIME" PROJECTS--As soon as the FY 1980 Military Construction Program is submitted to OSD (October 1978 timeframe), all MAJCOMs will be notified of the program via message. The intent is to once again ask for candidate FY 1981 MCP projects for designation as "Prime" for early design purposes. MAJCOM candidate "Prime" projects will be due in late November 1978.

REIMBURSEMENT FOR TELEPHONE RECONNECTION CHARGES--Telephone reconnection charges generated by construction MFH and Bachelor Quarters may now be reimbursed to the member when incurred during an ordered (local, non-PCS) move from quarters. For Family Housing, use MFH account (p-720) and for Bachelor Housing use O&M (3400/3600) appropriation. See Comptroller General Decision B-187833, 6 July 1977, and HQ USAF/ACBM 271430Z October 1977, to AIG ALMAJCOM/ACB.

DINING HALL CARRY OUT SERVICE--Procedures for dining hall carry out service will be standardized and expanded in airman dining halls. A survey of currently operated systems is being made by the Air Force Services Office. Based on the results of the survey, revised procedures will be published for guidance to those bases who desire to implement the service.

MEASURING IWP COMPLIANCE--The real measure of the effectiveness of the IWP is: "Does Civil Engineering keep the work commitments it makes to its customers?" This measure can best be accomplished by tracking commitments made for the first future month of the IWP through the month of planned accomplishment. If the commitment is not kept, find out why not and fix it!

BULK MILK DISPENSERS--Food Service operations that are considering the purchase of bulk milk dispensers must have an economic analysis performed to determine whether leasing or purchasing is more cost effective. When determining the cost of owning bulk milk dispensers, operational maintenance costs should be included. A DOD wide formula for computing these costs is anticipated soon.

LOGCES

by Maj Vincent P. Montoya and Maj Robert E. Thornton

Description

Logistics Civil Engineering Support (LOGCES) is a coordinated effort by Headquarters Air Training Command (ATC) /Civil Engineering and Logistics (DE/LG) to improve the supply/procurement responsiveness to civil engineering needs. Basically, it encourages communications and direct access to personnel who are responsible for processing Base Civil Engineering (BCE) supply requirements.

Headquarters ATC set up a program to test LOGCES at six

COCESS

by Edward T. Jansen, HQ SAC/DEMG, Offutt AFB, NB

Description

In 1970, Strategic Air Command (SAC) Civil Engineers looked at the supply systems used by several large companies with plant facilities similar to Air Force bases. From this review, SAC engineers developed a system they call COCESS. **What SAC engineers saw in the private sector was a direct user-vendor contact for materials which eliminated all middlemen.** SAC pursued this direction and established COCESS, **a store run by a supply contractor providing direct vendor-user contact.**

During the test, engineers

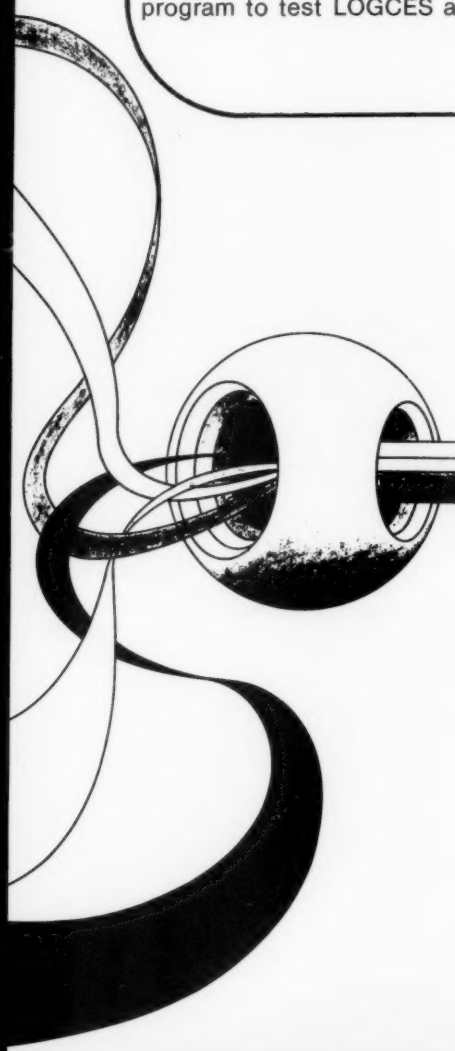
GOCESS

by Capt Ronald G. Harvey, HQ SAC/DEMG, Offutt AFB, NB

Description

The GOCESS (Government Operated Civil Engineer Supply Store) concept was developed in 1971 by Offutt AFB as an alternative to the Contractor Operated Civil Engineer Supply Store (COCESS). The Base could not get a single contractor interested in establishing an on-base store, but several contractors were interested in certain commodity groups and thus the GOCESS concept was born.

The GOCESS operation is similar to COCESS except the GOCESS involves Government ownership of stocks and Government operation of the cen-



MATERIAL SUPPORT

by Douglas Dalessio

The objective in material support is to provide the most responsive system possible with the least cost in terms of management and material. Efforts expended by major commands (MAJCOMs) and bases directed toward this objective have resulted in the development of some innovations in the way we do business. Purposes for this article are to

- **Increase awareness in the Engineering and Services community of these on-going efforts, and**
- **Provide a common framework for examining and comparing the systems that have evolved.**

To accomplish the task, the views of individuals who are considered to be the most experienced in each of the three systems currently in operation are discussed. The three systems are Logistics Civil Engineering Support (LOGCES), Contractor Civil Engineer Supply Store (COCESS) and Government Operated Civil Engineering Supply Store (GOCESS).

LOGCES

of its bases. Within the program, three separate methods of operation were identified. All three methods entailed collocating a base supply representative, U-1050 remote device, remote operator and a supply vehicle driver with the BCE Material Control Section. Also, the maximum number of BCE-type line items of base supply stocks were moved to the BCE compound.

Under **Test Method 1,** dedicated procurement buyers were identified and remained in the base procurement office. They were equipped with enhanced communications systems which allowed them to more expeditiously purchase BCE materials. In **Test Method 2,** procurement buyer(s) were collocated with the base supply personnel in the BCE Material Control Section to purchase priority local purchase materials only. **Test Method 3** was distinguished by the fact that procurement buyers were all located in BCE material control and purchased all BCE local purchase materials.

To support the collocation of personnel and to expedite material acquisitions, several procedural changes were established. The following actions were taken to insure timely support.

• **Buying to meet required delivery dates (RDDs):** The Base Civil Engineer established the RDD to meet his commitment to his customers or to insure an emergency situation was corrected in a timely manner. The RDD was recognized as a valid request and all personnel took every action possible to insure acquisition and delivery of BCE materials within the timeframe established.

• **Expeditious update of automated systems:** The base supply representative, located in material control, was the liaison between supply, procurement and civil engineering. He insured that issue requests were put into the supply computer in a timely manner. He was also equipped with a hotline to the research section of base supply to insure expeditious loading of a new item record. In addition, he insured prompt loading of the status of local purchase materials and also processed receipts of these materials when delivered to him by local vendors or the supply driver.

• **Hotlines and telecopiers:** Extensive use of enhanced communications system was a key ingredient. It insured correct information was sent as fast as possible between the various sections. Telecopiers were used between the base supply representatives and procurement section to transmit all information and documents necessary to make proper purchases the first time.

• **Dedicated buyers:** The chief of the procurement function specifically identified individuals whose sole responsibility was to buy BCE materials. These buyers were physically located in different sections depending on the methods being tested.

• **Blanket Purchase Agreement (BPAs):** The use of BPAs was encouraged and they were widely used in support of the LOGCES program. In the command, the number of BPAs prior to LOGCES was seven and after test completion the number increased to 142.

Advantages/Disadvantages

LOGCES improvements were noted in a great many areas with varying degrees of success. The following areas produced positive indications at all bases.

• **Buying to meet RDDs:** This helped the Base Civil Engineer to meet his commitments and improved the BCE image throughout the base.

• **Expediting centrally man-**

COCESS

learned that approximately 30 percent of the dollars spent for materials was for items that were obtained from the General Services Administration (GSA) and/or the Defense Logistics Agency (DLA) depots. **SAC received GSA/DLA waivers which allowed it to procure up to 90 percent of its material requirements through COCESS.** (Waivers were obtained in February 1972.) This made the COCESS concept significantly more cost effective when depot overhead and transportation costs were considered.

The COCESS concept is embodied in an indefinite delivery contract for BCE expendable materials. A COCESS contract calls for storage and distribution of materials space to be provided to the contractor on the base. This includes the stocking and issuing of benchstocks. The range and amount of items to be purchased are estimated on, but not limited to, the Material Requirements List (MRL). Contracts cover a one year period with provisions for two renewals. After contract award, the contractor assigns a manager and appropriate personnel to operate the store. He ships benchstocks and other anticipated requirements to the space designated for COCESS. Ideally, it is located in the BCE compounds adjacent to the shops and material control holding areas.

The Base Civil Engineer must provide the contractor with a list of the names of those personnel who are authorized to draw materials. Authorized personnel can draw benchstock materials from the COCESS by signing a sales slip acknowledging receipt. Materials for work orders and job orders are ordered through Material Control on an AF Form 1445 citing the work or-

der or job order number, the date required, and other pertinent data. When the contractor receives the AF Form 1445 from Material Control, he orders the materials from the manufacturer or the highest echelon he has access to in the commercial distribution network. **A preplanning procedure is used for the contractor and the Government to agree on a firm Established Delivery Date (EDD).** A firm EDD means we can schedule our work force and know the materials will be on hand.

When sales slips are signed acknowledging receipt of the material, a copy of the sales slip is sent to Accounting and Finance and the original is retained by the contractor who submits it with his invoice for payment. If the sales slips held by Accounting and Finance match those submitted to the contractor, he is paid.

Advantages/Disadvantages

Experience with the COCESS system indicates that it has achieved the initial primary objective of improving material support to the Base Civil Engineer.

- Studies revealed the Base Supply system completed the average bill of materials (BOM) in 60 days while the COCESS average was 10 days. (GSA/DLA waivers contributed to this improved response.)
- Time consuming research (identification), cataloging and requisitioning procedures are eliminated or reduced.
- Errors in ordering are reduced, and losses from receipts of the wrong items are eliminated.
- Communications are improved between the Government and the vendor. Planners and craftsmen can talk to the vendor and describe or even show what item is needed.
- Multiple levels of material management, handling and storage by the Government are reduced.
- Materials hoarded in the shops are eliminated as the system demonstrates that it can

GOCESS

tral benchstock warehouse. The GOCESS concept includes the permanent GSA/DLA waivers obtained in February 1972 allowing procurement of up to 90 percent of the BCE material requirements through the system. BCE personnel run the store with assistance from procurement personnel. Base procurement buyers, located in Base Civil Engineering, place orders with competing vendors for supplies. The buyers award the sales to the vendors with the most economical prices and usually arrange delivery of the materials. Use of Blanket Purchase Agreements (BPAs) simplifies the paperwork while insuring reasonable prices for materials are obtained.

SAC is further testing the GOCESS concept at McConnell AFB, Kansas. Preliminary results from the first three months of the test operation at McConnell AFB have shown the GOCESS operation to be more cost effective than the previous COCESS operation. McConnell AFB is performing an **AFM 26-1,** Cost Comparison Analysis, of the material prices experienced during the GOCESS test to the prices submitted by the lowest COCESS bidder during contract solicitation.

Advantages/Disadvantages

The primary advantage of the GOCESS concept is the improved cost effectiveness. We believe that the GOCESS concept is more cost effective and responsive at bases near metropolitan areas because several large vendors are usually available that stock a wide selection of supplies at competitive prices. The preliminary results from the GOCESS test at McConnell AFB support this theory. Another advantage of the GOCESS system is increased responsiveness. A number of possible vendors with large inventories increase the availability of the items when they are needed. The GOCESS supply system significantly reduces contract administration and surveillance costs. The GOCESS mode of operation also provides a "fail-safe" system in the event of a COCESS contractor default. The GOCESS concept, being similar to the COCESS system, can be implemented at short notice without significant problems.

The Defense Logistics Analysis Office recognized the responsiveness of GOCESS with the following comments in their September 1976 report concerning Material Support to Civil Engineering Operations: "Dedicated CE support systems, depending heavily on local purchase—especially local purchase using BPAs—are significantly more responsive to CE material needs than central support systems or local purchase systems which are not CE dedicated." The Deputy Assistant Secretary of Defense (Supply, Maintenance and Services) recognized GOCESS in a 9 March 1977 DOD Memo as "an acceptable, cost effective supply technique."

One disadvantage of the GOCESS concept is that it may not be as responsive and cost effective at bases that are not located near metropolitan areas.

Selection Criteria

A cost analysis must be performed at each installation where GOCESS is considered to determine the most cost effective supply support technique. The prices of the items under COCESS must be compared to the prices of the same items through a proposed GOCESS system. Also, offsetting manpower costs to operate the benchstock warehouse and provide procurement support must be considered. Adequacy of normal inventory levels of prospective vendors in the area is another selection criteria. The best method for determining which system to use is **AFM 26-1,** Cost Comparison Analysis.

We are pleased with the results from the GOCESS operation at Offutt AFB and the

LOGCES

aged items: LOGCES allowed supply to locally purchase centrally managed items when the justification required that an item be available for a job sooner than the delivery time from the central source.

• **Dedicated procurement buyers:** Those personnel greatly enhanced our support because of the personal contact between the requester and the buyer. BCE operations and maintenance personnel indicated that they had received the correct items on the first buy with fewer unacceptable substitutes.

• **Pick-up of local purchase items:** Base supply assumed the responsibility for pick-up of local purchase items when a vendor could not deliver. This freed BCE personnel from having to chase down their own parts and saved the time of a skilled craftsman and vehicle.

• **Enhanced Communication:** This is the key to any good management system. The proximity and coordination efforts of all personnel involved in LOGCES gave supply and procurement greater insight into BCE needs and problems.

• **Improved Scheduling:** The test program improved the scheduling process. The meeting of RDDs coupled with the improved supply pipeline times, gave schedulers more flexibility and stability in their programs.

LOGCES works well but improved supply/procurement responsiveness does not come free. To some individuals the need for personnel dedicated to civil engineering requirements may be considered too expensive and, therefore, a disadvantage of the system.

In the final analysis, LOGCES proved itself a method of support endorsed by ATC Civil Engineers. In October 1977, LOGCES was selected as the ATC standard system for supply support to the BCE. C&S

COCESS

provide the required materials.

• COCESS is cost effective and this was confirmed in Volume III of the report of the Commission on Government Procurement, December 1972. The cost to procure $100 worth of supplies through COCESS was $10; through small purchases, $37; through GSA, $95; through Defense General Supply Center, $134; and through the Defense Industrial Supply Center, $155.

• The direct cost of inventories and inventory management is borne by the contractor.

COCESS is good but it isn't perfect. BCE Material Management was not eliminated when the contractor came on board. Instead, the Material Control function acquired a new facet, Contracting Officer (TRCO). Many of our material control sections were unprepared to oversee a million dollar materials contract and new data automation programs without additional training or comparable manpower.

Selection Criteria

COCESS is good but it is not necessarily the best support system for all installations. **The first requirement must be a desire on the part of the base management to have COCESS support.** A house divided against itself cannot manage a COCESS contract (or anything else for that matter). **Secondly, a COCESS contract should not be established if another concept, i.e., Base Supply, Government Operated Civil Engineering Supply Store (GOCESS), Logistics Civil Engineer Support (LOGCES), etc. can provide more responsive or cost effective support.** Whatever the individual base circumstances are, periodic comparison, evaluation and selection from the various support techniques should provide the best possible BCE Supply support. C&S

GOCESS

preliminary test results from McConnell AFB. These results are demonstrating that GOCESS offers a positive potential for dollar savings. We also believe that qualitative intangibles, such as improved material support and better customer service, result from GOCESS.

Conclusion

To find the common thread that ties these systems together is easy. It is the combined efforts of Supply, Procurement and Civil Engineering personnel dedicated to improving BCE material support. While the ideal system may not exist today, the results of these efforts demonstrate that response times can be improved with varying degrees of increased costs. We will continue to compare and improve on these systems as we seek to achieve our objective. C&S

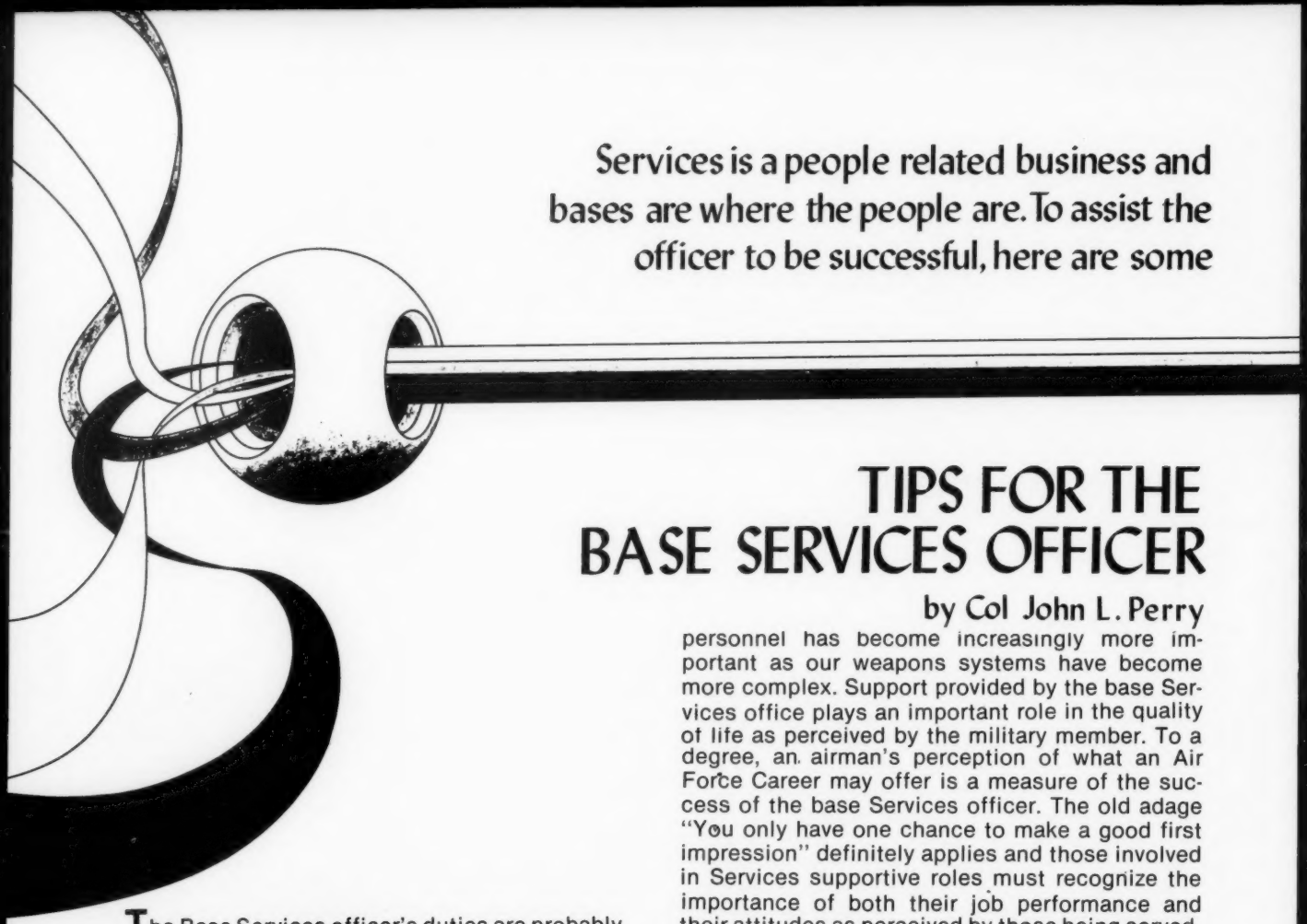
DOUG DALESSIO *is an Industrial Engineer in the Mangement Branch, Operations and Maintenance Division, Directorate of Engineering and Services, Headquarters US Air Force. He received his bachelor's degree in industrial engineering from the University of Rhode Island.*

MAJOR MONTOYA *is the Chief, Maintenance/Management Division, DCS/Engineering and Services, Headquarters Air Training Command, Randolph AFB, Texas. He earned his bachelor's degree in civil engineering from the University of New Mexico and is an Engineer-in-Training in New Mexico.*

MAJOR THORNTON *is a Staff General Engineer in the Maintenance/Management Division, DCS/Engineering and Services, Headquarters Air Training Command, Randolph AFB, Texas. He has a bachelor's degree in architecture from Texas A&M University.*

EDWARD JANSEN *is an Inventory Management Officer in the Maintenance/Management Division, DCS/Engineering and Services, Headquarters Strategic Air Command, Offutt AFB, Nebraska. He received his bachelor's degree in business administration from the University of South Dakota and his master's degree in education from Southern Illinois University.*

CAPTAIN HARVEY *is a Civil Engineering Logistics Manager in the Maintenance/Management Division, DCS/Engineering and Services, Headquarters Strategic Air Command, Offutt AFB, Nebraska. He earned his bachelor's degree in business administration from Belmont College, Nashville, Tennessee, and his master's degree in counseling psychology from Ball State Univeristy.*



Services is a people related business and bases are where the people are. To assist the officer to be successful, here are some

TIPS FOR THE BASE SERVICES OFFICER

by Col John L. Perry

The Base Services officer's duties are probably the most misunderstood duties of any officer assigned to an Air Force installation. For instance, there are phone calls that range from mothers who desire to know when the nursery opens to why were the dinner rolls so hard in the Officers Club? Occasionally, there is a query on how a taxpayer's dog may be selected for duty in the service. While fielding questions of this type may offer a change of pace and sometimes provide a bit of humor during the work day, the functional areas for which the base Services officer is responsible provide him with sufficient work. And normally, they allow for sufficient challenge to develop considerable innovativeness and diplomacy.

Over the past few years, emphasis has been increased in the Services area at all echelons of command. The force of gravity and normal military discipline have resulted in the majority of this additional emphasis flowing down to Services staffs at base level. After all, Services is a people related business and bases are where the people are.

Our all volunteer force concept has brought considerable attention to the need for long overdue improvements in the quality of life for both military members and their dependents. Retention of expensively and extensively trained military personnel has become increasingly more important as our weapons systems have become more complex. Support provided by the base Services office plays an important role in the quality of life as perceived by the military member. To a degree, an airman's perception of what an Air Force Career may offer is a measure of the success of the base Services officer. The old adage "You only have one chance to make a good first impression" definitely applies and those involved in Services supportive roles must recognize the importance of both their job performance and their attitudes as perceived by those being served.

The single enlisted member who resides in bachelor enlisted quarters and subsists in the airmen's dining hall, forms an opinion of military life which is certainly affected by the quality of his quarters, his food, cleanliness of his linen, laundry facilities, attitudes of those providing these services, etc. The married military member, while possibly not receiving as much direct Services support as the single member, may, upon arrival at an installation, receive considerable short term direct support through use of billeting's guest quarters or transient lodging quarters and the dining hall. After getting settled, support provided the married member becomes more indirect and may involve the Services officer primarily in his role as consumer advocate. For married members, both the member and spouse form opinions which affect decisions they make regarding their future. In any case, support provided by the base Services office is used by all military people and it definitely has a bearing on career related decisions.

Although transfers of operational responsibilities of the clothing sales stores to the Army& Air Force Exchange Service and the commissaries to the Air Force Commissary Service decreased the responsibilities of the Services officer, they did not affect the importance of his remaining

functional areas. Food service, linen exchange, billeting, laundry/dry cleaning and mortuary affairs are essential support functions which, if performed well, help provide an environment conducive to retention of the quality force so necessary in today's Air Force. In addition, the Services officer also serves as a Consumer Advocate not only for his functional areas, but also for the base commissary and base exchange activities. Further, his in-depth involvement in the dormitory and furnishings upgrade plans and programs are essential and he should be intimately familiar with facility utilization and improvement plans. Obviously, the loss of direct responsibility for commissaries and clothing store operations did not leave the Services officer looking for work.

While it is an admirable goal to excel in all of the areas previously mentioned, it is rarely possible to do so. The Services officer who does is probably either under employed or blessed with an abundance of efficient assistants. The ability to establish correct priorities is the first step toward success for the Services officer. The function of the Services officer greatly influences the airman who is considering the Air Force as a career. The Services officer, therefore, must keep this in mind in setting his priorities.

By approaching problems from the "quality of life" aspect, the Services officer's ability to gain the necessary base level support for problem resolution is greatly enhanced; to excel, he must have the support from as many other base activities as possible. The Services officer must recognize fully the importance of his job and must be totally aware that his success, to a large degree, is dependent upon his ability to influence others. Tact, diplomacy and salesmanship, combined with an ability to do good staff work and a sincere interest in peoples' needs, are traits demonstrated by most successful Services officers. Job knowledge, while important, is of little value unless it is accompanied by the ability to work with, and influence, people. Several successful Services officers initially assumed duties as chiefs of Services with no prior experience or training. While learning their jobs, they managed their duties well, primarily because of their common sense, good judgement and their **ability to work with people.**

In summary, the successful Services officer must be people oriented and have a sincere desire to improve the quality of life for military members. He must be capable of influencing others, both those in Services and those in other activities, to strive toward what are or will become common goals. He should possess a working knowledge of civil engineering, supply, procurement and transportation, in addition to gaining expertise in those areas for which he is directly responsible. The Services officer must not be overly sensitive to criticism nor should he expect an overabundance of individual recognition for his efforts.

The successful Services officer will recognize the overall importance of his job and how it relates to the broad picture. He will strive toward improving Services support to the base to which he is assigned. His subordinates will recognize the pride he takes in the successful accomplishment of their joint tasks and, when he is reassigned, will strive to complete their mutually established goals.

Base Services officers who are successful, contribute immensely to their base of assignment and to the Air Force. Their efforts do not go unnoticed and the successful Services officer has no need to be concerned about his competitiveness for promotion. Outstanding managerial and supervisory abilities, sincere interest in working with people, tact, innovativeness and the ability to perform under stress are traits desired in our future leaders. A Services officer has ample opportunity to develop his talents in these areas. C&S

COLONEL PERRY *is Chief, Personnel Support Branch, Services Division, Directorate of Engineering and Services, Headquarters US Air Force. He earned a bachelor's degree in geology from the University of Kansas.*

Quality Control

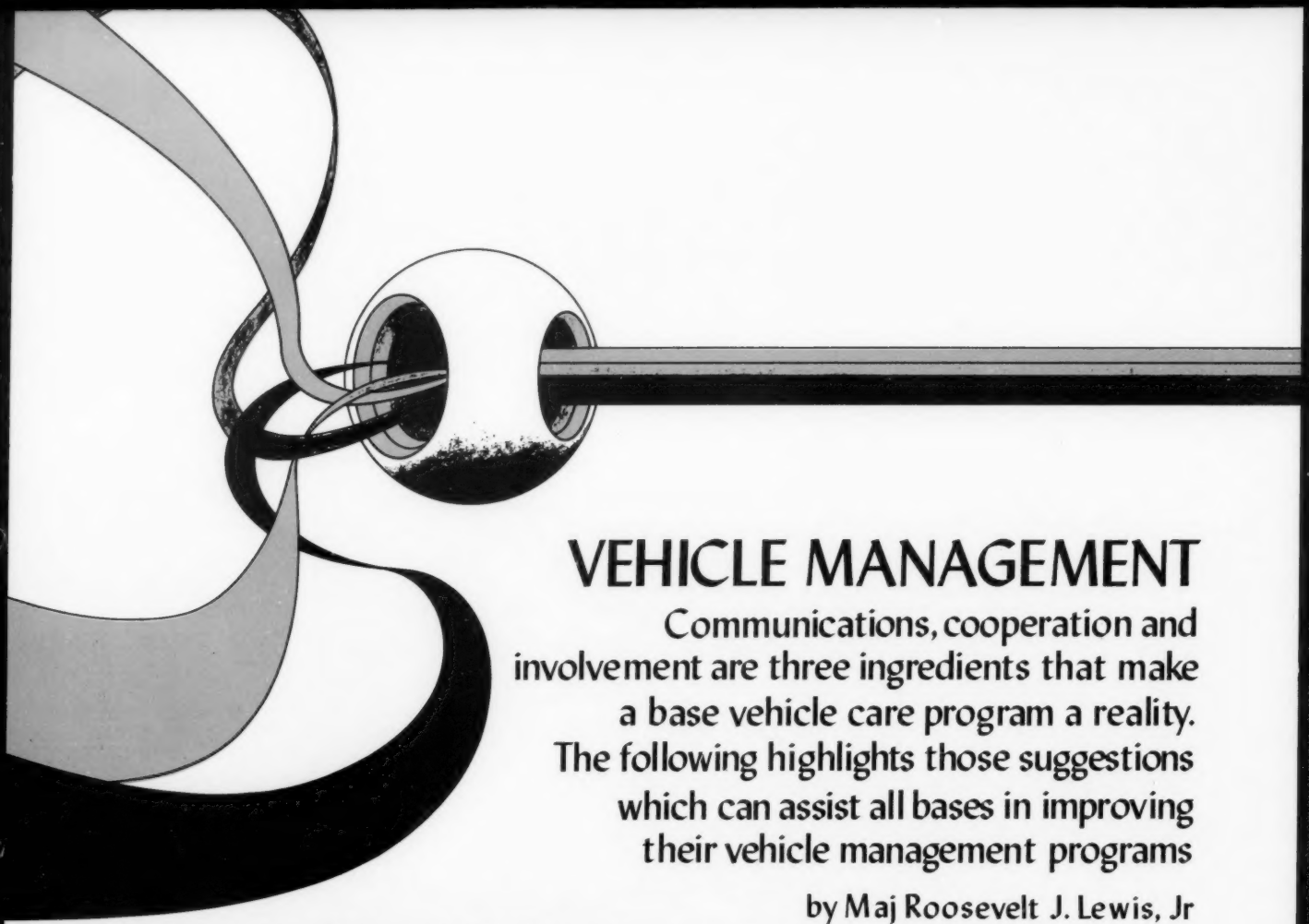
(Continued from page 14)

himself to this "foreign" surveillance approach.

This Quality Assurance Program really should be regarded as a cyclic one. Periodic review of the guidelines in terms of changing directives and techniques, and revisions to the Statement of Work are necessary. If there is no review, the program soon would not be in consonance with the contract.

The loose Statement of Work is acceptable and preferable; it can easily be melded into this quality assurance surveillance program. The quality assurance program should be developed concurrently with a contract proposal; if not, a contractor will be on base performing base maintenance, and there will not be a quality assurance program in being to evaluate his performance.

We feel that quality assurance of the Base Civil Engineering functions using the methodology presented here, subjective though it may be, will provide a more than adequate evaluation of a contractor's performance. The guidelines as developed, together with our experienced people, provide the tools to evaluate the contractor's end results (product). The development of measures of desired performance level is the missing link in the program and needs investigation. C&S



VEHICLE MANAGEMENT

Communications, cooperation and involvement are three ingredients that make a base vehicle care program a reality. The following highlights those suggestions which can assist all bases in improving their vehicle management programs

by Maj Roosevelt J. Lewis, Jr

Editor's Note: The following article highlights the importance of good vehicle management within civil engineering, reviews the responsibilities of both Civil Engineering and Transportation and provides some crossfeed which should assist all bases in improving their current vehicle management program. The author, a member of the Civil Engineering and Services Management Evaluation Team (CESMET), has traveled to many installations throughout the CONUS during the past several months. He has often identified problems which he labels as a simple misunderstanding of roles, responsibilities and the interface between Civil Engineering and Transportation.

Civil Engineering squadrons possess the majority of vehicle assets at virtually every base around the world. The degree of vehicle management and user involvement exercised by Civil Engineering significantly impacts the entire vehicle program on a base. The Transportation Squadron, much like Civil Engineering, is just as involved in practically every activity on the base. Workforce productivity is predicated on the use of vehicles. It should be apparent that a good vehicle management program pays big dividends to both Civil Engineering and Transportation. Let us review the key sections in Transportation that Civil Engineering deals with on a continuing basis.

The Vehicle Operations Section and the Vehicle Maintenance activity are the units of contact for Civil Engineering vehicle management. Certain duties and responsibilities of both Civil Engineering and Transportation are outlined here to highlight some of those recurrent topics with which Civil Engineering may require Transportation assistance. Vehicle Operations (Motor Pool) is the point of contact for:

- Vehicle Control Officer program;
- Obtaining a vehicle;
- Vehicle Authorization/Utilization Board (VAUB) inputs;
- Emergency rental/lease;
- Misuse/abuse/accident questions;
- Drivers School: Licensing/Training; and
- Wrecker Service (24 hour).

Vehicle Maintenance is responsible for providing the base with a mechanically safe and serviceable vehicle fleet. It is the point of contact for scheduled maintenance, unscheduled maintenance and proposed vehicle modifications.

A good point of departure in discussing the Civil Engineering/Transportation interface in

Vehicle Operations is to focus on the individual responsibility of the Vehicle Control Officer (VCO). Policy outlined in **AFM 77-310**, Vol. I, "Management of Motor Vehicles," requires a letter of appointment from the unit commander to the Vehicle Operations Officer.

Why must there be a VCO in the unit? Current and projected funding austerity has caused severe impacts in the vehicle replacement program and overall Air Force Vehicle Management philosophy. All echelons of command must insure that proper emphasis is placed on the management and control of these high investment cost items of equipment. Civil Engineering must obtain the maximum benefit from each vehicle in the fleet while minimizing operations and maintenance costs. The management and control necessary to reduce these costs can no longer be confined to the base Transportation unit. Therefore, control has been decentralized to the using agencies. The vehicle user is primarily responsible for the safe operation, conservation and condition of the vehicle assigned.

The VCO has the important role of controlling and managing the unit fleet. As the single point of contact and key manager of vehicles within Civil Engineering, the VCO must be thoroughly familiar with the needs of the unit and how to satisfy those requirements. He must insure that maintenance is performed in a timely manner. He must resist the urge of those within the organization who espouse the philosophy of "Drive the vehicle until it falls apart." Also, Civil Engineering needs to think beyond the short term; e.g., "We cannot turn it in for maintenance now . . . we might need it."

Experienced vehicle managers have heard these arguments for years; both are fallacious. Actually, the goals of Civil Engineering and Transportation should be the same; each should assist the other. For example, if Civil Engineering requests a vehicle, Transportation should attempt to secure it, based on proper justification. This can be accomplished if communications are good and a rapport is cultivated between the two units. Since all vehicles require scheduled maintenance, there should be strong emphasis on making repairs as soon as possible to preclude further deterioration which can be more costly and can lead to excessive downtime.

Another comment often heard is "We are not getting our fair share of vehicles." Let us examine this comment, starting with how a vehicle is obtained.

The basis for issue of a vehicle is the Table of Allowance (TA) 010. This document is a statement of allowance and should not be construed as an authorization. Base authorization is provided by the Vehicle Authorization/Utilization Board (VAUB) which is made up of key managers who constitute corporate management on the base. An AF Form 1374 contains the justification for the requirement, is verified by the VCO and is either approved or disapproved by the VAUB. An approved AF Form 1374 results in Base Supply forwarding the documentation to the final approving authority, most often the major air command, and sometimes, Air Force Logistics Command. Upon approval, a vehicle is provided to support the final authorization.

The most important role for vehicle users is to provide logical, clear justification for a vehicle. There should be no doubt as to the need for a vehicle. The requirement must be articulated in a manner that specifically shows its proposed use, anticipated utilization and the overall adverse impact that it would cause if a vehicle is not forthcoming.

All alternatives should be considered prior to the request that the Air Force invest in a vehicle specifically for a particular mission. For example, a short term rental or lease vehicle may well satisfy a short term requirement if resources are not available. Sharing or joint-use with another shop is usually a more feasible solution, especially when utilization of the asset is relatively low. Use of a U-Drive vehicle is often an option. Redistribution of assets within the unit, other units on base, or in some cases, within the command might be warranted.

The suggestion is that all options should be studied. Then communicate and cooperate with the Vehicle Operations Officer and find the best solution to fit the requirement. Do not go after "nice to have" items; the Air Force vehicle program cannot afford them. Credibility is an important asset to have on your side when competing for limited vehicle assets. Although true utilization is an important indication of need, it is not the only indicator; unique circumstances and impact are also important.

Now that the unit has vehicles to satisfy requirements, it is imperative to set up procedures to control the asset and prevent abuses, misuses and accidents. Examples of abuse are tampering with governors; failure to report malfunctions/defects; operation with insufficient oil and coolant; and "riding" clutches.

Misuse consists of any unauthorized use of a vehicle. Vehicles must be used for official purposes only. Accident prevention should begin long before an individual is given the keys to a government vehicle. CESMET has found that within Civil Engineering, the overwhelming number of accidents are due to improper backing of the vehicles. Efforts should be directed toward educating drivers in accident prevention and defensive driving. Both Safety and Transportation resources are available to assist in this effort, and better organizations invariably have this combined effort in common.

Other contacts of specific interest in Vehicle

Operations are the Drivers School and the Wrecker Service. The Drivers School is responsible for issuance of Standard Form 46, Vehicle Operators Identification Card. Renewals and changes to licenses, qualification of personnel within the unit on special purpose vehicles/equipment, checkrides, and licenses for TDY vehicle users, all fall under the charter of this section. Management should carefully choose vehicle trainers, certify officials within the unit and insure their close coordination with the Drivers School. High-risk drivers should also be identified to this section. A 24 hour wrecker service is provided by Vehicle Operations at virtually all bases. The VCO should get involved and use these services for the mutual advantage of his unit and the base.

Although the importance of the Vehicle Maintenance Section was previously alluded to, let us briefly comment on organizational maintenance, which is the unit's responsibility. Organizational maintenance consists of a daily inspection using the Operators Checklist, (AFTO Forms 371, 373, 374 and 421, depending on the type of vehicle) and reporting discrepancies to the Vehicle Maintenance section for repair. Vehicle cleanliness, proper oil and coolant levels, and rotation of tires are the responsibility of vehicle operators. Special purpose vehicle operators also perform minor adjustments and maintain special equipment attachments (snowplow blades, cables, etc.) as outlined in the appropriate Dash-One technical order. The key to a solid, dependable fleet is the emphasis placed on the organizational maintenance program. All these items impact the success of Civil Engineering fleet support as well as the whole base. Therefore, the commitment to caring for the vehicle fleet cannot be overemphasized.

Vehicle Maintenance is responsible for all maintenance above organizational responsibility. To facilitate a relatively balanced workload in the shops, a scheduled maintenance program has been placed in effect by the Air Force. Actions are scheduled in advance based on miles, hours or calendar time. Periodically, a machine listing or letter will inform the unit of its scheduled maintenance requirements for the next month.

The Unit VCO should coordinate with Vehicle Maintenance Control for an agreed upon time, and insure that vehicles are turned over by that time. Special emphasis on coordination is required to insure that scheduled actions do not become overdue. The entire month is available for scheduling, and unit vehicles, ideally, should be spread out to preclude an adverse impact on productivity. This also holds true for the Vehicle Maintenance workforce, and Civil Engineering can "win friends and influence people" by **cooperating** with Maintenance Control to insure mutual benefit.

Vehicle malfunctions should be reported immediately to maintenance for repairs. Continued operation of a faulty vehicle often causes greater damage, costly repairs and accidents. Unscheduled maintenance actions reported in a timely maner allow early parts ordering/acquisition and reduced downtime for the user. All drivers must be held accountable for prompt identification of repair requirements.

MAJOR LEWIS *is the Transportation Staff Officer assigned to the Civil Engineering and Services Management Evaluation Team, Headquarters US Air Force. He earned his bachelor's degree in chemistry from Tuskegee Institute and his master's degree in commerce and business administration from the University of Alabama.*

Proposed vehicle modifications must always be brought to the attention of the Vehicle Management Officer. Modifications should be performed by the maintenance shop and certified by the OIC. Civil engineers are well aware of the many attempts to modify base quarters, erect nonstandard/approved fences and paint in nonstandard patterns. The same is true in Vehicle Maintenance, with the additional parts problem and safety ramifications of a vehicle modification which is unauthorized. Talk with your friendly maintenance officer before acting.

In those units where the interface between Civil Engineering and Transportation is good and the units are above average in their vehicle management programs, three things are found:

- **Good communications exist between Civil Engineering and Transportation;**
- **Cooperation in the vehicle management effort is evident, whether it concerns scheduling accident prevention or identification of high-risk drivers; and**
- **There is personal involvement from the Wing Commander down the managerial chain to the Vehicle Control Officers.**

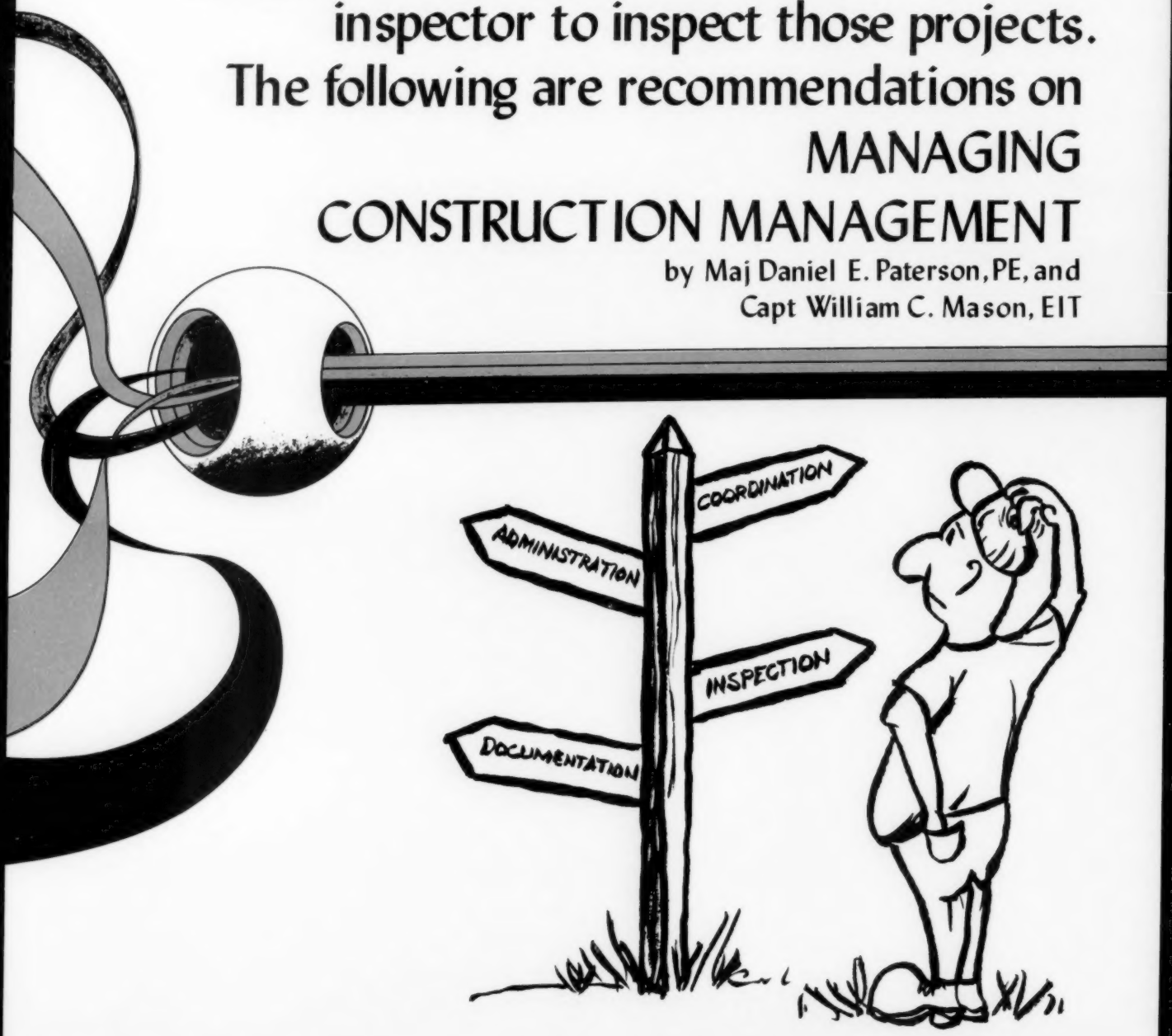
There is a commitment to professionalism which leaves no doubt that vehicles as well as other base equipment will receive proper care. Personnel are aware of their responsibilities and the necessary leadership is there to foster good vehicle management.

Communications, cooperation and involvement make a vehicle care program a reality. Typically, the strong VCO (usually the O&M Chief) and the VCNCO who are well aware that equipment availability and condition contribute significantly to the productivity of the Civil Engineering workforce and are key figures in the unit. They pull routine checks on the vehicles and equipment to insure general condition and appearance, and award appropriate recognition to personnel resonsible to them for vehicle care.

What can you do to improve vehicle management in your unit? Try communicating, cooperating and involvement . . . It works! E&S

Concerns of most Engineering Construction and Environmental Planning branches are the quantity of projects assigned and the limited amount of time available for each inspector to inspect those projects. The following are recommendations on MANAGING CONSTRUCTION MANAGEMENT

by Maj Daniel E. Paterson, PE, and
Capt William C. Mason, EIT



John Erickson is an inspector in the Construction Management (CM) Section at Home AFB. On the job for the past three years since promotion from the Structural Maintenance Shop, he has of late wondered if he has made a good decision. He enjoys working outdoors, and he really doesn't mind the paperwork or the extra hours required on certain jobs. He likes to do a good job though, and that's his problem. John is frustrated. His trouble is compliance with all the requirements in the regulations, completing all of the necessary paperwork, and inspection of all the contracts to which he's been assigned. Is John's case out of the ordinary? We don't think so. In fact, John's problems are characteristic; he could be assigned to any one of our bases.

One of the concerns of most Engineering Construction and Environmental Planning (ECEP) branches is the quantity of projects assigned to the CM Section. Another is the limited amount of time available to each inspector or Technical Representative of the Contracting Officer (TRCO) to inspect those projects. Concerns like this are investigated at the Civil Engineering School at Wright-Patterson AFB, Ohio.

Duties of the Inspector

Let's get back to John to determine why he may be having a problem. As an inspector, he has a variety of responsibilities. He is an administrator, documentor, coordinator and inspector. His administrative duties include keeping project files in order, reviewing submittals, checking warranty information and receiving equipment operating instructions. Other administrative duties include performing constructibility reviews of projects (looking at designs prior to sending them to Procurement to insure the work portrayed can be accomplished), acting as a technical advisor to the Contracting Officer, and reviewing the contractor's progress schedule.

Closely related to these are his documentation duties. One of the most important is keeping a daily diary of the contractor's progress on each assigned project. Using his diary, the progress schedule and on-site inspections, the inspector prepares an estimated project completion percent which is provided to Procurement as a basis for comparison in determining contractor progress payments. He also notes any changes occurring on the job on his set of plans so that the as-built drawings can be updated correctly after project completion.

The third function of the inspector is to act as a coordinator between the base and the contractor. The inspector coordinates such matters as contract related utility outages, supplying government-furnished material/equipment to the contractor, and insuring that all agencies have signed off on digging permits. The inspector acts as a point of contact for the contractor, answering any of the contractor's questions or providing clarification of contract plans and specifications.

The most important function of the inspector is his performance of inspection duties. He inspects the work performed on each contract to insure the Government receives exactly what the plans and specifications require. He checks for quality and quantity as it relates to workmanship, equipment, materials and compliance with the contract documents. The inspector conducts several types of inspections. He visits sites with prospective bidders, inspects the work as it is being performed, and initiates a pre-final and final inspection. Unfortunately, the inspector is often preoccupied with his administrative and coordinative duties, with limited time for actually performing these inspection obligations.

The aforementioned duties are only a sampling of the inspector's responsibilities; however, they provide a comprehensive view of what his job entails. The problem for the inspector is to accomplish all of his assigned or implied tasks to a degree which assures that the Government is receiving a good product from the contractor. The solution is to improve his time management and, in some cases, shift some of his responsibilities.

Resolving the Problem

First, find out what is being done in the CM section by studying what is actually being accomplished; then, compare this to the established responsibilities of the section. Unnecessary items should be deleted and necessary responsibilities added. Also, thought should be given to reducing additional duties. The Industrial Engineer could perform this study or the ECEP chief might perform an informal study.

One of the first recommendations should concern project adjustment or allocation. The engineering design plan should support a smooth flow of work to Procurement. This will preclude an adverse impact on the inspection effort. The notice to proceed on some projects may be delayed to shift the workload to a period of less work. An inspection plan or schedule could also be developed. In this plan, similar projects can be grouped together and inspection assignments scheduled, based on work specialties and inspector expertise, i.e., electrical work or carpentry. Another method of distributing work would be based on the geographic location of projects so that an inspector would not have far to travel between projects. If a single contractor has several contracts on base and only one foreman, it may be possible to reduce the time spent on each project by assigning all of the projects to one inspector; therefore, the inspector would not have to contact different contractor representatives.

Prior to going out on an inspection, the inspector should organize or prepare himself by reviewing what he should be looking for on each project. He should always inspect as many projects as he possibly can each time he leaves the

office. When he vistis each project in an area, the inspector should make certain that the time is **not** the same everyday.

Prior to inspection, the inspector should place projects in priority. Factors would be scope, complexity, command interest or critical stages or items (i.e., the inspector should definitely be on-site when the contractor is applying the asphalt to felts on a built-up roof). Since only so many hours are available for inspection, some level or range of inspection should be set. Some simple jobs or those just beginning would require less inspection than others. Also a range can be established between the minimum desirable and what is preferred. The level and range would depend on the time available. An important factor in deciding on a level and a range of inspection is the experience and reliability of the contractor. Some contractors consistently do excellent work and from past associations an inspector should be aware of those contractors. There are also mediocre and poor contractors. In most cases, the mediocre contractors have not performed poorly enough to put them on the debarred bidders' list; in this case, a closer inspection is highly desirable and as such will take up a higher proportion of the inspector's time. The design engineer is another source of information for deciding on the level of inspection. He can brief the inspector on the critical areas to look at on the project.

Since the inspector may be unable to do all that is required, the construction manager may obtain additional help. This would be in the form of additional manning, overtime approval, hiring architect/engineers, or having the contractor perform his own quality control (QC). Contractor QC can be tailored to almost any project. On small projects the contractor can be required to keep records of personnel on the job and work accomplished while on larger projects he can have personnel in a separate QC section. Most service contracts already require contractors to maintain acceptable QC systems. While these actions do not substitute for inspection, they can help an overworked inspector keep up with the project. Another source of assistance is to have other base civil engineering or base personnel perform inspection functions. Engineers can help by reviewing progress schedules, providing quick turn-around of submittals and accomplishing other paperwork. TRCOs could be assigned from O&M shops or the fire department if the project involved work in which these personnel are proficient. For example, a housing foreman could inspect a housing applicance contract or fire department technical services personnel could inspect a fire detection system installation.

Many methods may be used to increase the inspectors' available time; one is to minimize the inspector's administrative duties. The duties are not reduced but the methods used to produce the result are changed. To assist in record keeping, the inspector can dictate to a secretary or he can use a dictaphone. Project status can also be handled by a secretary if a status board is maintained nearby. On many projects, a photograph can reduce the amount of words in a report or in a daily diary. Carrying a camera on-site provides an incentive to the contractor and can be a most beneficial asset in a dispute with the contractor. Administrative time can also be reduced by using form letters and pre-printed checklists when appropriate.

Engineering can help to reduce the inspector's research and administrative time by tailoring specifications to each job; writing them in an outline form with a standard format and using performance standards where applicable. A standard organizational format would facilitate project review (i.e., constructibility review) and checking of information and requirements during the contract.

No matter how much effort is taken to reduce the inspector's administrative time and increase his inspection capabilities, it is of no avail if he cannot get where he needs to be when he needs to be there. A vehicle should be assigned to CM, and depending on the workload, additional vehicles may need to be assigned. Another alternative is to have the inspectors drive their own vehicles and pay them for their mileage or use a base taxi. Most O&M branches have a taxi service; the inspector could be incorporated into this system although it might be necessary to provide him a two-way radio for prompt pickup when he is not near a telephone. If the inspector has a radio, many problems on the job can be handled immediately via a telephone patch to Engineering or Procurement.

A requirement for a smooth operating CM section is a good working relationship with both the Engineering section and Procurement. Personalities of individuals in the various sections and organizations can create an unworkable situation. It is the responsibility of branch and section chiefs to see that this does not occur. Conflicts should be aired and equitable solutions found. Nothing less than a harmonious working relationship should be accepted if the Government is to maintain productivity and receive the best possible product.

Although problems between CM and Engineering personnel are usually low-key, they can create serious problems for the Air Force, the base and Civil Engineering if allowed to continue. The inspector must see that the project is carried out in accordance with the plans and specifications. However, lack of consideration for constructibility comments by the design section can rob construction management of its confidence in the design with disastrous results. Mutual respect for the background experience

and knowledge of the other party is essential as is tact in discussing any problems. The relationship between Base Civil Engineering and Base Procurement personnel is most important. Each is an integral link in the chain of obtaining contract work. Each organization should understand the mission and purpose of the other because each has a different approach to its own mission. The result, however, should be the same; obtain the best possible product for our money.

The best way to improve a working relationship is to have a meeting between CM and Engineering, and Services Procurement and Contract Administration personnel. This meeting could be labeled a "how-goes-it" type meeting, that is, one during which decisions are made on design milestones; reviews are completed on the language used in specifications; and as a means to inform all parties of anticipated changes in ongoing work. The engineering design plan could be reviewed for upcoming design completions, and procurement could be given a copy of the MAREMIC Month of Award Listing. Many procurement offices are not aware that this computer product is available to them—the use of which would be a great aid for planning purposes. Procurement should also be involved in early design planning to assist in selecting a procurement method and contract type. This would prevent conflicts between the specifications and boiler plate which may cause problems and lost time for the inspector later when the project is under way.

Another type of meeting is a joint design review meeting. It would supplement or even replace the sending of letters back and forth between Procurement and Engineering. The meeting would take place after each organization has reviewed the proposed projects' plans and specifications. Usually corrections made by Engineering, Construction Management and O&M can be incorporated prior to the formal procurement review. A discussion of the "as applicable" Armed Services Procurement Regulation (ASPR) clauses could be beneficial at this point. If need be, ongoing projects could be discussed to promote knowledge of the projects, insure a consolidated position, and keep the projects moving smoothly.

Joint meetings may also prove beneficial in determining the authority of the inspector in relationship to the work he is inspecting. The relationship between the responsibilities and authority found in **AFR 89-1** and the various ASPR clauses concerning inspection could prove to be fruitful. The inspector has slightly more authority in a service contract than a construction contract. The joint determination of what an inspector can and cannot do in various situations can be most helpful in clearing up misconceptions. It can also serve to inform Procurement of problems inherent with its decisions.

The best way to improve the time management capabilities of the inspector is to increase his knowledge. Training and educational courses available to the inspector include:

- Procurement's on-base TRCO training;
- In-house training in technical inspection to make the inspector more productive;
- Off-base courses, such as the Contract Construction Inspector Course at Sheppard AFB; the PPM 301 Contract Management for Civil Engineering Programs Course at the School of Systems and Logistics at Wright-Patterson AFB; the MGT 425 Contract Management Course at the Civil Engineering School.
- Prerequisities for courses are listed in **AFM 50-5,** USAF Formal Schools Catalog.

Perhaps one of the most overlooked and underrated functions of a manager is giving praise to an employee for a job well done. Some people are self-starters and can keep going without any recognition, but most people require some type of encouragement or praise. Think back to the last time that you complimented an employee. Many supervisors assume that as long as an employee is doing a good job and they don't have to berate him about problems, that's enough to keep the employee happy. Well, in John's case, this might not be enough. Giving a word of praise or encouragement for a job well done or continuing fine work, sympathizing with a problem, or bringing problems out in the open can do much to remove the burden on an employee.

The ideas presented in this paper can help remove or relieve some of John's time problems. However, nothing can replace the empathy and praise which are needed to "weather the storm" and without which John might consider going back to his old job without all the hassles. E&S

MAJOR PATERSON *is a Course Director in the Civil Engineering School, Air Force Institute of Technology, Wright-Patterson AFB, Ohio. He earned his bachelor's degree in civil engineering from the State University of New York, Buffalo, and his master's degree in facilities management through AFIT. He is a registered Professional Engineer in the Canal Zone and Ohio.*

CAPTAIN MASON *is Course Director, Construction Management Course, Civil Engineering School, Wright-Patterson AFB, Ohio. He earned his bachelor's and master's degrees in civil engineering from the University of Florida and the University of Missouri, Columbia, respectively. An associate member of the American Society of Civil Engineers, he is also a member of the Society of American Military Engineers. He is an Engineer in Training in Montana.*

THE A LA CARTE SYSTEM

As the result of studies into cafeteria style dining operations, many lessons were learned in the Air Force A La Carte System for dining hall operations. Here's a report on the Barksdale AFB operation.

by Capt James P. Blanco

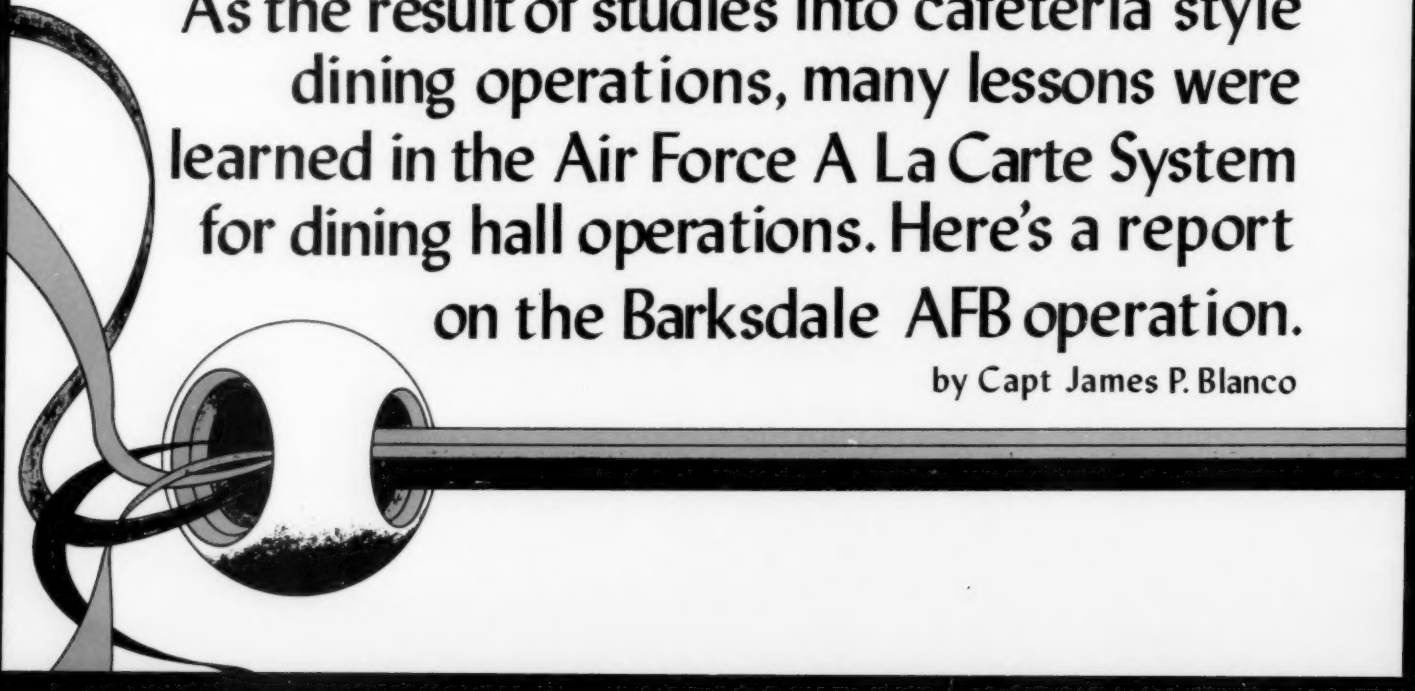
A revolutionary change in Air Force feeding programs is the A La Carte System (ALACS) for dining hall operation currently in use at Barksdale AFB, Louisiana. A logical outgrowth of previous tests at Shaw AFB, North Carolina, and Loring AFB, Maine, the Barksdale AFB system allows the food service manager to offer a la carte priced items to his BAS (Basic Allowance for Subsistence) customers while the SIK (Subsistence-in-Kind) people continue to eat free of charge. (See **Air Force Engineering and Services Quarterly,** May 1977 which explains the basic accounting systems.) In anticipation of a future Air Force ALACS program, this article is intended to be a "nuts and bolts" discussion of modifications to dining facilities needed for an ALACS. Hopefully, some of these ideas can be incorporated into your long range facility programs.

At Barksdale AFB, we pursued the basic premise that we must keep conversion costs at a minimum. We concluded that extensive, costly modifications just to start an ALACS were not justified for several reasons. First, costly and extensive refurbishing of a facility to conform to the requirements of an experimental operation could require additional changes when the results of the new operation began to develop. Second, low costs enabled the base to proceed with local approval authority and to use in-house labor. Thus, the base was assured of a firm project completion date that coincided with cash register purchases and any needed mess attendant contract revisions.

The final cost of the modifications was approximately $9,000. This may appear to be higher than most bases would expect, but it should be noted that Barksdale AFB is a large operation with a main dining hall, academy dining hall and an alert facility. (No changes were made to the inflight kitchen or the fire station.)

We learned a great deal about cafeteria style operations from the Barksdale AFB program. Some ideas were gained from the experiment itself while others came about as the result of visits to local civilian cafeterias to find answers to our problems. A discussion of a few of our observations follow and many of these lessons learned will be applied to the Barksdale AFB operation in the near future.

- **All food must be placed on the serving line before reaching the cashier.** This means detached salad bars and pastry dispensers must be relocated.
- **Drink and pastry displays should be near the cashier.** These are high-concentration areas for seconds, and there is no reason for the customers to "buck" the line to reach these items.
- **It is desirable for smaller facilities (alerts, crash kitchens, etc.) with short order and main lines combined, to arrange the serving line so that the daily entrees are before the griddle.** If this is not possible because of the location of the exhaust hood or permanent installation of serving line components, plans should be made to accomplish this rearrangement during the next planned renovation.
- **Sufficient space should be allowed between the serving line rail and any wall behind the**



The menu board is placed conspicuously to help the customer.

Drinks and pastry should be located near the cashier for easy access.

Serving rail is too short, preventing a place to rest trays.

customer. This will allow people to pass each other and avoid congestion. Cash customers tend to become highly selective in an a la carte situation, and many return for seconds rather than overloading their tray the first time through the line.

• **Microwave ovens, pizza ovens, hot dog rollers, etc., should be placed either behind the serving line or as close to it as possible.** Using these pieces of equipment for proper application of batch cooking and portion control is a great help in providing quality food items.

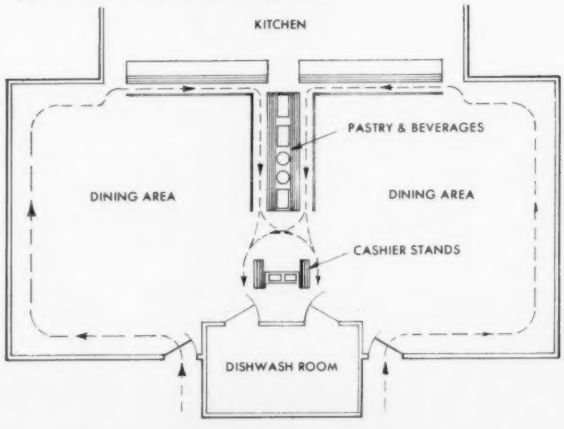
• **Menu boards with item prices should be placed behind the serving line in full view of the customer as he observes the entrees.** Many customers have been observed item pricing and comparison shopping. These price boards will eliminate the need for the food service worker to memorize prices and answer distracting questions. An additional menu board placed just inside the front entrance will help other customers make the selections in advance.

• **Cash register stands should be placed, arranged, constructed, etc., so that sufficient tray slide rails are in front of the cashier's view.** This will enable the cashier to begin ringing up the next tray while the previous customer is putting his change away. It also allows the customer free hands to get his money out prior to reaching the register.

• **The most important lesson learned was to keep the two cashiers together in a two-serving-line dining hall, Figure 1.** This arrangement has several advantages, the most important being that the flow of customers through the full service lines and the snacklines is never equal. With the registers placed together, customers can choose the shortest line. Another advantage is that mission changes may reduce customer count to the point where one cashier is sufficient. Registers widely separated must still be manned full time or relocated. The cashier employees, too, are benefited by being next to each other. This arrangement allows them to trade change, take restroom breaks, close one register, etc.

By incorporating these ideas, you should be able to smoothly change your dining hall into an ALACS. Experience has shown that customer acceptability of a la carte systems is high. But, if your customers are confronted by a dining hall layout that restricts or confuses customer flow, that enthusiasm may wane. Remember proper merchandising and presentation of food are just as important as careful preparation. E&S

Figure 1: Recommended configuration for a typical Air Force dining hall.



CAPTAIN BLANCO *is Command Services Officer, Engineering and Services Directorate, Headquarters Eighth Air Force, Barksdale, AFB, Louisiana. He received his bachelor's degree in business administration from Memphis State University and his master's degree in human relations and supervision from Louisiana Tech University. He has been recently reassigned as Chief of Services, Spangdahlem AB, Germany.*

Civil Engineers at England AFB wanted a no-fuss, no-red-tape method of getting materials and tools into the hands of their customers. Here's how they set up a

BASE U-FIX-IT STORE

by Lt Col James L. Clowers, EIT, and Carl W. Andrews

Have you ever become frustrated as you watched your skilled craftsmen doing work that, while necessary, required little or no skill, while you were trying to find manhours to complete essential work requiring the best skilled craftsmen you have? This was the climate that persisted at England AFB, Louisiana, early in 1976. Having been hit hard by the Inspector General, who was enforcing maintenance standards more vigorously than ever before, some drastic action was required. The Squadron, like most Base Civil Engineering organizations, is sized to hold a standard of maintenance fairly well, but really cannot markedly improve the standard without some outside help. This traditionally comes through facility projects by contract which is often throttled by funds availability. Since we had stretched contract dollars to the limit, the Base Civil Engineer (BCE) had requested Industrial Engineering to find ways to expedite improvement of the base standard of maintenance.

As the result of a study, the Industrial Engineer (IE) discovered that a significant percentage of skilled manhours were being used to accomplish simple, minor maintenance and repair jobs that anyone could do with a few basic tools and materials. It was apparent that a good self-help program was needed quickly. We looked into the possibility of increasing the self-help effort and found that we, as civil engineers, had practically legislated ourselves out of business in this area.

The self-help program outlined in **AFR 85-1** contains many unattractive features from the user's viewpoint. The "red tape" alone is enough to discourage many potential self-help requests. Coupling the "red tape" along with material lead time, it is a wonder that people use the self-help program at all! By the time we get our "stuff" together, the customer is out of the notion or his ace carpenter or handyman has transferred out.

What we needed was a no-fuss, no-red-tape method of getting materials and tools into the customer's hands. As we saw it, the answer was to open a Base U-Fix-It Store (BUFIS) similar to the Family Housing U-Fix-It Store many of us have been operating for years. However, to do so would place us in direct violation of **AFR 85-1.** We put our proposed program together in detail as part of the IE study and sent a request for approval through Headquarters Tactical Air Command to Headquarters US Air Force. The Air Staff approved a one year test of the BUFIS concept at England AFB. We established a benchstock and acquired the necessary tools in early August and began the test on 16 August 1976.

In order to dispel fears that all sorts of minor construction work would be done without proper authorization, we included several controls in our program. First, we limited access to the store to Building Custodians and First Sergeants. These people are familiar with civil engineering procedures and know the difference between minor construction and repair work. Second, we published a base regulation governing the operation of the store and specifying the types of work allowed. Third and probably the most effective, we didn't stock things like 2 x 4s, sheetrock, electrical wire, paneling, etc., which are normally required to do minor construction work. The final control was to require Quality Control to randomly select several issue slips each week and check work accomplishment.

We soon found that the store needed all the potential materials and tools available immediately. We learned quickly that people stopped using the store if it did not have what they wanted when they wanted it. Establishing a benchstock for the store eased the material problem and close coordination with supply personnel eliminated it. We also found that the BUFIS was a good place to "sell" items from residue that might otherwise find their way into salvage.

Base Civil Engineering encouraged the use of the BUFIS by means of articles published regularly in the base newspaper, and through announcements at staff meetings. We also used a little leverage in the review of AF Forms 1135 to

promote BUFIS use. If the job required simple minor maintenance or repair, we sent it back to the requester stating that "due to the priority and nature of the work requested, it has been placed in the IWP (In-Service Work Plan) six months hence and Civil Engineering will do the work at that time." We suggested use of the BUFIS if this time delay was not acceptable. We prevented duplication by telling the requester that we would hold the request in suspense five working days. If he did not request continued IWP action within that time, we assumed that he had accomplished the self-help work through BUFIS, and destroyed our file copy. You will note that at no time did we refuse to do the work. Forced self-help leaves a bad taste in everyone's mouth and will eventually kill the program (Remember the "homeowner" concept back in 1965?). This approach also generates better general acceptance of the IWP concept. After all, the requester **has** agreed to accept the delay inherent in the IWP operation in order to get Base Civil Engineering to do the work.

So far, we recognize that many of the statements we have made can be classified in the "motherhood and apple pie" category. We have left out that essential ingredient that will make or break the program: Command Support. If the Wing or Base Commander expects all organizations to take care of minor maintenance and repair jobs because he has better things for the BCE's skilled personnel to do, the program's success is on its way. However, if the Commander automatically thinks of the Base Civil Engineering electrician rather than a Building Custodian when he sees a fire exit bulb out, results will be mediocre at best. Fortunately, at England AFB, command support was outstanding and the results have been sensational. Through BUFIS, customer identified low priority minor maintenance and repair work have been accomplished that could not have been programmed in a time frame responsive to the desires of the requester.

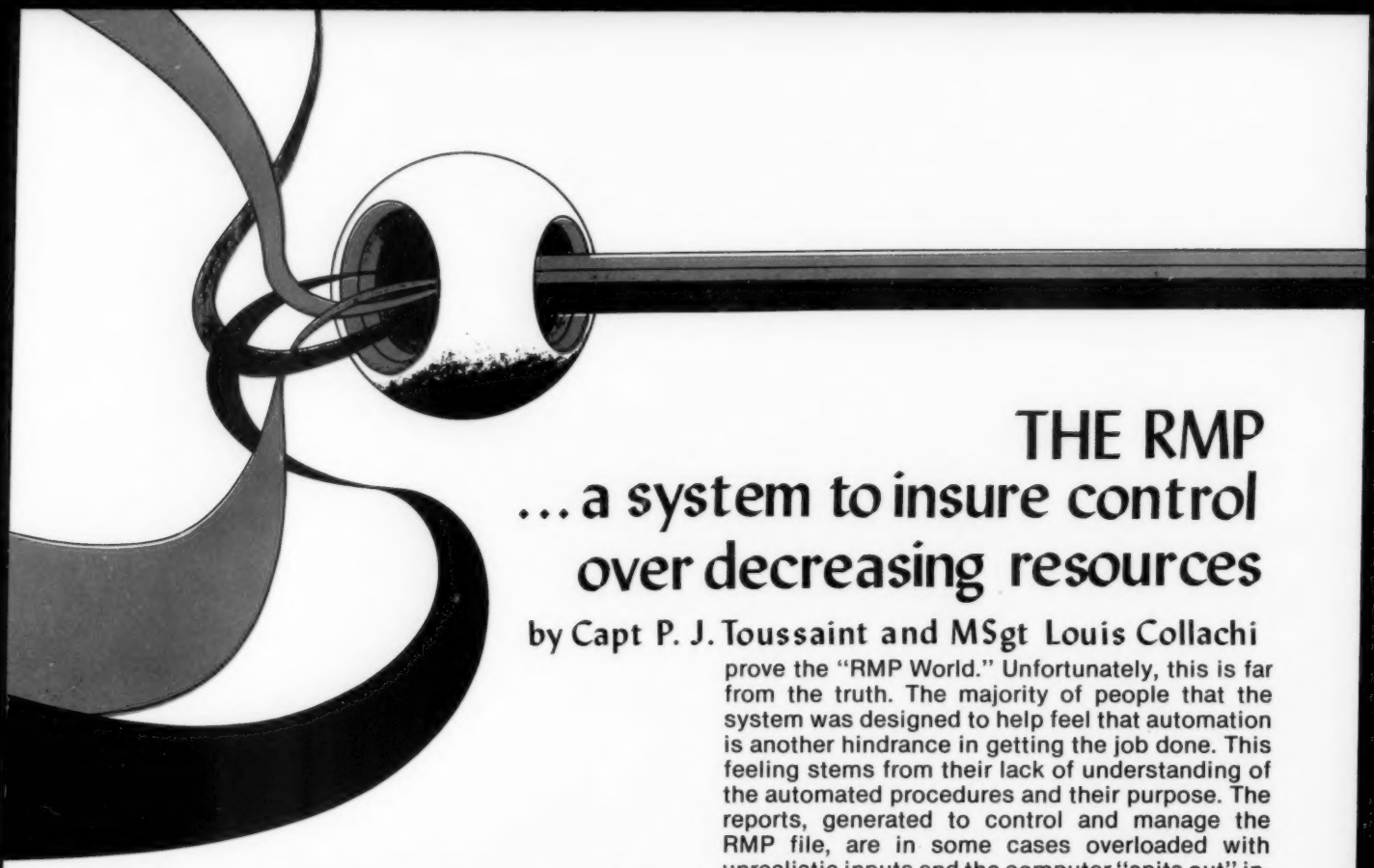
The real payoff in this program has been the dramatic improvement in the maintenance standards of the base and change in attitude of the personnel. People take better care of those facilities upon which they are performing minor maintenance, and units take pride in making their facilities the best on the base. England AFB won the 9th Air Force Base Appearance Award and the TAC Base Appearance Award for 1977. Self-help projects counted big in this competition, and thanks to the general attitude on the base, nearly all units had some self-help work they could point to with pride.

Editor's Note: The Base U-Fix-It Store (BUFIS) concept, which was tested at England AFB from August 1976 to the present, was approved on 13 December 1977 by Headquarters US Air Force/PRE for optional Air Force wide implementation. As indicated above, the concept establishes a local store where building custodians can obtain materials and tools for the accomplishment of routine maintenance and repair. A benchstock was established and materials were issued directly to the store from base supply. Materials were issued directly to facility custodians by the store manager. Only materials for work that is a responsibility for Base Civil Engineering and listed in the test regulation could be issued through the store. No approval was needed as long as the item was listed in the store inventory. The IE Section inspected the work on a random selection basis to insure that materials were properly utilized and the quality of work was maintained. England AFB issued approximately $20,000 of materials during the first 12 months of the test resulting in timely accomplishment of low priority customer identified work requirements. It is stressed that building custodian participation in this program is strictly voluntary and materials cannot be used for minor construction or alteration projects. The Air Force Civil Engineering Center at Tyndall AFB, Florida, has included optional operation procedures in a recent change to **AFR 85-1** which permits the establishment and operation of the U-Fix-It Store.

E&S

COLONEL CLOWERS *is the Base Civil Engineer at England AFB, Louisiana. He received a bachelor's degree in geology from Kansas State University, a bachelor's degree in civil engineering from the University of New Hampshire and a master's degree in civil engineering from Purdue University. He is an Engineer-In-Training in New Hampshire.*

CARL ANDREWS *is the In-Service Work Plan Programmer at England AFB, Louisiana. He is a graduate of the University of New Orleans with a degree in finance. Currently, he is enrolled in the master's of business administration program at Northwestern State University, Louisiana.*



THE RMP ... a system to insure control over decreasing resources

by Capt P. J. Toussaint and MSgt Louis Collachi

When we talk about RMP wer are talking Resources, Management and Productivity. Without the R, the M, and the P working for us, we cannot possibly have a valid Recurring Maintenance Program. Management must take the lead role to insure that our ever diminishing resources are being productively employed. We must stress that the **lead role** (not an inspector image) is necessary to bring all of the important players together to accomplish this large task. Many long standing hurdles must be overcome and it will not be easy. When completed with tangible results, it is a very gratifying accomplishment.

Operations and Maintenance (O&M) work force productivity cannot be measured directly. What can be measured, however, are actions and habits which are counterproductive. One program which inherently demonstrates nonproductive characteristics is the Recurring Maintenance Program (RMP). We all know that the RMP is established to prolong the life expectancy of critical facilities, systems and equipment for which the Base Civil Engineer (BCE) is responsible. The AF Form 1841, Maintenance Action Sheet (MAS), is used by BCE personnel to list the specific recurring tasks to be performed on various items of equipment or systems. The computer does the scheduling of the required maintenance actions by generating "cards" to insure the shops are aware of maintenance actions due for accomplishment.

With such a clear and simple system you might think that there is nothing a manager can do to improve the "RMP World." Unfortunately, this is far from the truth. The majority of people that the system was designed to help feel that automation is another hindrance in getting the job done. This feeling stems from their lack of understanding of the automated procedures and their purpose. The reports, generated to control and manage the RMP file, are in some cases overloaded with unrealistic inputs and the computer "spits out" information that is more or less useless. As a result, these products are put aside and ignored rather than revised to portray the intended analysis. Education at **all levels** is an important factor in bringing the pieces together. Our civil engineering middle managers (foremen and superintendents) feel that these types of programs are designed to **control them** as opposed to **insuring their control over** our decreasing resources. In our efforts we have, in fact, brought our middle managers "back into the loop" by emphasizing the benefits to be derived from the system by their understanding and actions. All of the "million dollar" programs in existence aren't worth a "plugged nickel" if the people that they are supposed to help do not completely understand. Managers should strive to use the system and not attempt to circumvent it.

For the past two years, we have been emphasizing actions that can be taken at base level to insure that tasks, frequencies and standard manhours in the RMP files are valid. Through visits to our bases, discussions with O&M personnel, review of data in the files, on AF Forms 1841 and by job site visitations, we have pointed out several significant problems. Follow-up validation efforts, made by responsible base personnel, have resulted in a better than 50 percent reduction in manhours reserved for RMP requirements command wide. These "saved" manhours have then been reapplied more productively to accomplish other valid "customer" work requirements.

Let's take a few minutes to examine the following typical situations we found at our bases which we feel exist to some degree at bases Air Force wide:

• **MAS task descriptions are too broad and general:** What specific tasks do the craftsmen accomplish during each job site visitation? The biggest problems we found were associated with heating and air conditioning systems throughout the building. The MAS supposedly applied to all buildings on base regardless of size. Most generally, we found different standard manhours in the file for buildings that are essentially the same, while on the MAS an averaging technique was used for standard manhours.

• **MASs reflect "as required" tasks which are not accomplished on every visit:** This situation had led to inflated standard manhours in the file to take care of something **"we may find."** The current procedure permits accomplishment of minor items found without additional paperwork if time and any required materials are available. Therefore, **any contingency manhours reflected on the MAS should be deleted.**

• **Excessive frequencies:** This was a major problem area in our program files. However, through investigation of applicable manuals or manufacturer's references, we disproved the need for the **majority** of monthly/weekly frequencies.

• **Dissimilar equipment listed on the same MAS:** Equipment requires different maintenance tasks/frequencies. Here we found averaging techniques in the standard manhour computations. Site investigations identified many tasks that **could not** be performed on all pieces of equipment covered by the MAS.

• **All like items (such as those in different facilities) were not listed on the same MAS:** This greatly expands the program's paperwork and results in just too many MASs.

• **MASs do not reflect the building numbers/areas where the tasks are to be performed.**

• **MASs and RMP files contain equipment which is no longer operational or no longer installed.**

• **Items maintained by craftsmen assigned to the Fire Department are not included in the program:** (i.e., hydrants, deluge systems, fire detection systems, etc.).

• **Equipment or systems requiring daily inspections/maintenance tasks in the Operations and Services (LUC 19) Program were included in the RMP file.**

• **Non-critical items, which are not economical to maintain on a recurring basis, were in the file:** We should remove from the program all those items for which we spend several times the replacement value per year for maintenance (i.e., emergency lights, small motor controllers, fractional size motors) . . . under $250.

• **Start/stop months for heating and air conditioning systems were not entered into the file:** Maintenance time should not be reserved for work which will not be accomplished during months when the equipment is not operational. We did not find many errors of this type. However, the errors when found, resulted in a considerable number of manhours which were removed from the file.

• **Many seasonal overhaul requirements were found in our files:** These requirements should be completed on planned work orders since the tasks are not recurring and not pre-identifiable in scope. Inspection of the equipment and systems can be done in the RMP.

• **People considered outdated AFMs as firm directives over what items and tasks to include in the RMP:** Many of the maintenance items found in these manuals are associated with the old Preventive Maintenance concept. Up-to-date criteria must be used to support the RMP.

• **Craftsmen from different shops often visit the same work site on the same frequency but on different schedules:** The majority of these types of situations occurred with overhead doors, deluge fire sprinkler systems, and motor contactors on associated heating and air conditioning systems. Basically, instead of two people from two shops going to a location at different times, we emphasized to the different work centers involved that the schedule should be altered so that only one person from each shop makes the required inspections at the same time. Also, in the case of electrical overhead doors, the sheet metal mechanic could make the inspection, reporting any obvious inconsistencies to the electric shop, thereby reducing the frequency or completely eliminating the electrical inspections.

• **Many items installed by contract and initially under warranty are not picked up in the RMP upon expiration of the warranty.**

• **Additional work accomplished in the field and incorrectly entered on the RMP completion card:** This work should be charged to LUC 11 on the AF Form 1734; but the completion card should only reflect the standard manhours for the scheduled maintenance action.

• **There are duplicate inspections of systems by craftsmen (under the RMP) and planning technicians during facility surveys.**

• **MASs not prepared by shop foremen and not reviewed by Superintendents and the Chief/Deputy Chief of O&M:** We must maintain a system of checks and balances on the RMP.

We feel that the following summary can best serve as a ready reference to be applied in your own particular situation to uncover commonly found discrepancies.

- MAS descriptions too broad and general.
- MASs reflect tasks not accomplished on every visit.
- Excessive frequencies.
- Dissimilar equipment covered by one MAS.

• All like equipment/systems not covered by one MAS.

• MASs not reflecting building numbers/areas where visits are to be made.

• MASs with tasks which cannot be performed.

• Insuring that equipment listed in file is still operational/installed.

• Insure RMP requirements are not those to be included in Operations and Services Work List.

• Purge RMP file of non-critical items with under $250 value.

• Insure start/stop months are included.

• Purge RMP file of seasonal overhaul requirements.

• Deleting requirements from outdated AFMs.

• Coordinating schedules to eliminate duplicate visits.

• Picking up items in RMP upon expiration of warranty.

• Insure proper annotation of standard hours on completion card.

• Deleting duplicate inspections performed by craftsmen and planning technicians.

• Review and validation of MASs by foreman, superintendent and O&M Chief.

If your base has some or all of these typical situations, then a purge of your RMP file should be accomplished. The RMP is not intended to be a blank check but is intended to reserve the minimum **required** manhours to perform **required** maintenance tasks. Required manhours must be developed based on work requirements and not from the manhours available in the work center.

A good review of the RMP must have the support and interest of the BCE, O&M Chief, Deputy O&M Chief and all Superintendents and Foremen. We have suggested that the Deputy O&M Chief at our bases be the OPR for RMP. Visit your job sites and see for yourself. Don't take program integrity for granted. Review items recently completed according to the file. Has the work been done? Visit job sites approaching scheduled accomplishment date. Is the work to be accomplished required? Review the critical/non-critical classification of each item in the file. Look at the life expectancy and replacement cost of the items. Use good judgment and common sense in spending maintenance dollars. Basic to any review of the RMP is the understanding of **AFR 85-1,** Chapter 5. The basics will remain unchanged for some time to come; however, several helpful clarifications will be made in the next change to **AFR 85-1.**

An in-depth examination of your RMP, in light of the situations described, would prove enlightening and most revealing. The most important step in our entire review exercise was to win over the confidence and understanding of the superintendents/foremen. We set up a chalk-talk atmosphere, pointing out, through the use of the RMP file, the obvious areas of concern. As we discussed a certain item, we could see the questions formulating in the minds of the supervisors present. Before long, everyone became involved in the discussion and they unloaded their concerns on us. The fact that we took the time to explain our position, and the need for validation of their programs, proved highly beneficial. They had initially felt that no one was really concerned with their problems and we were out to reduce the file at all costs, not to validate it. Ultimately, it **did** reduce our files considerably; but the fact that they had played an active role and were an integral part of the overall effort resulted in a great deal of cooperation and credibility in the review process and the RMP itself.

However, reduction should not be overdone! All valid requirements should remain in the program and items that should be included must be added when overlooked. All necessary maintenance must be accomplished. The establishement of a valid file is necessary to allow productive manhours to be available to the BCE to accomplish other priority work and thereby enhance customer satisfaction. Once purged, the file should be reviewed periodically to insure it is up-to-date with proper additions and deletions. Over a two year period, the Air Force Systems Command RMP experienced a significant reduction of the command's total direct manhours expended. A valid RMP is our objective. It takes active participation of O&M personnel to develop a realistic and cost effective program consisting of validated MAS tasks, frequencies, standard manhours and crew sizes. Every base can accomplish reductions. Trimming the RMP would make an excellent civil engineering MBO item!

Have you ever wished you had an extra 1,000 manhours available to do a special project. Look at your RMP. You may find those precious manhours you need right at your fingertips! E&S

CAPTAIN TOUSSAINT *is the Chief, Maintenance Management Division, Directorate of Operations and Maintenance, DCS/ Engineering and Services, Headquarters Air Force Systems Command, Andrews AFB, DC. He earned his bachelor's degree in civil engineering and his master's degree in structural engineering from Cornell University. He is a member of the American Society of Civil Engineers.*

SERGEANT COLLACHI *is a Resource Management Superintendent, Directorate of Operations and Maintenance, DCS/ Engineering and Services, Headquarters Air Force Systems Command, Andrews AFB, DC. He has extensive experience as a craftsman, shop foreman, superintendent, industrial engineering technician and construction management inspector at base level in civil engineering.*

WORTH NOTING

AFCEC Wins Outstanding Unit Award

The Air Force Civil Engineering Center, Tyndall AFB, Florida, was recently awarded the Air Force Outstanding Unit award for exceptionally meritorious service to the US Air Force. Maj Gen R. C. Thompson, Commander of the Air Force Engineering and Services Agency, and Director of Engineering and Services, HQ USAF, attaches the Unit Award streamer to the flag of the Center held by Amn Patricia Christian. Looking on are Col R. M. Iten, Center Commander (now retired); Robert E. Brandon, Executive Director; and SMSgt R. J. Stevens, First Sergeant. The Center received the award for the January 1975 through December 1976 period for its work in increasing combat readiness, environmental protection energy, conservation and corrosion protection.

First Design Workshop for Architects Held at CES

Plans for a continuing education course for architectural design, planning and programming were developed at the first Air Force Architectural Design Workshop held at the Civil Engineering School, Wright-Patterson AFB, Ohio, 22-24 February. In line with the growing concern of Air Force leaders to improve the quality of life for people at bases through comprehensive design of the physical environment, it was determined that the Air Force architect (military and civilian) will play an increasingly important role in improving that environment.

The MAJCOMs, Air Staff, Air Force Regional Civil Engineering Staffs and separate operating agencies were represented by 22 Air Force architects and one Navy architect.

The workshop pointed up the need for the architect's involvement in initial planning, from the identification of a facility requirement to the user move-in. The architect's involvement in proposed physical changes to the environment and in setting the design parameters was deemed a necessity toward quality design.

Comprehensive design, with consideration for the Air Force mission and the needs of people, was determined to be the key to improve the quality of life on bases.

Colonels Selection Board Picks 13 for Promotion

Thirteen civil engineering officers were selected for promotion to Colonel by the CY 1977 Central Temporary Colonels Board which met on 5 December 1977. They are: James M. Conry, HQ USAF; Preston Daniels, Leadership and Management Development Center, Maxwell AFB: Eugene Garove, HQ ATC; Charles Lindbergh, Air Force Civil Engineering Center; John C. Price, Mather AFB.

Neil E. Prince, Leadership and Management Development Center, Maxwell AFB; Sterling E. Schultz, Air Force Civil Engineering Center; Kenneth S. Smiley, Jr, Air Force Data Design Center, Gunter AFB; William M. Snow, Jr. Pease AFB; Dibrell / C. Stowell, Davis-Monthan AFB; and Patrick J. Sweeney, School of Systems and Logistics, AFIT, Wright-Patterson AFB.

Selected from below the zone were John R. Harty, Air War College, and Ralph L. Hodge, AFSC.

AFCOMS Announces New Policy On Bagger/Carryout Personnel

Beginning July 30, 1978 bagger/carryout personnel in military commissaries in the continental United States, Alaska, Hawaii and Guam will become non-appropriated employees of the commissaries, according to Air Force Commissary Service (AFCOMS) officials.

Bagger/carryout personnel have previously been independent agents who performed a service for customers in return for tips. Under the new system, they will receive wages funded through a two percent add-on fee charged customers at the cash register, and tipping will be discouraged.

To illustrate how the system will work, a customer who purchases $50 worth of merchandise will pay $1 for the service. The new fee will be calculated separately from the four percent surcharge and the funds will be separate throughout the accounting process. Customers will not be required to pay the new fee if they prefer to bag and carry their own groceries. At least one line in each store will be set aside for this purpose. If demand warrants, additional lines may be established.

DUAL AWARD HIGHLIGHTS ENGINEERS WEEK LUNCHEON

Two civil engineering officers were named co-winners of the Maj Gen A. M. Minton Award during ceremonies at the Air Force Civil Engineering Day Luncheon held in conjunction with National Engineers Week in February.

It was the first time ever in the 16 year history of the competition that dual honors were presented. The Aerospace Education Foundation of the Air Force Association (AFA) sponsors the award which honors the author of the best article published in the **AIR FORCE ENGINEERING & SERVICES QUARTERLY** during the past calendar year.

Lt Cols O. F. Smith and **Charles Medlock, Jr.**, accepted plaques from James H. Straubel, Executive Director of the AFA, for their respective articles published during 1977. Colonel Smith was cited for his article "Our Ability to Fly and Fight: A Matter of Readiness" which appeared in the November issue and Colonel Medlock was recognized for his article "The San Antonio Real Property Maintenance Agency" which was published in the May issue. Colonel Smith is a Contingency Plans Officer in the Operations and Maintenance Division, Directorate of Engineering and Services, Headquarters US Air Force, and Colonel Medlock is the Vice Commander of the San Antonio (Texas) Real Property Maintenance Agency.

Presentation of this award was the highlight of several other special achievement citations made during the Luncheon at the Bolling AFB Officers Open Mess. Maj Gen Robert C. Thompson, Director of Engineering and Services, hosted the affair, attended by approximately 275 persons.

Other winners included:

• **MSgt Bryce E. Mason, Deputy Fire Chief, 321st Civil Engineering Squadron, Grand Forks AFB, North Dakota: Non-Commissioned Officer of the Year.** Sergeant Mason was cited for his outstanding achievements and dedication which brought immeasurable benefit to the Grand Forks AFB fire department. The citation in part read: "Sergeant Mason was responsible for the effective and efficient management of comprehensive base fire protection and prevention programs."

• **MSgt James A. Rohling, 379th Civil Engineering Squadron, Wurtsmith AFB, Michigan: Foreman of the Year.** Sergeant Rohling was recognized for his superlative performance in maintaining key airfield and base pavements at Wurtsmith AFB. His dedication, loyalty, leadership and management abilities as well as his enthusiasm were recognized.

• **Mr James G. Smith, 301st Combat Support Group, Rickenbacker AFB, Ohio: Meritorious Achievement for Professional Excellence (civilian).** Mr Smith was honored for his efforts in identifying and resolving complex problem areas, and developing and monitoring vital construction projects while assigned to the Engineering and Construction Branch.

• **Capt Patrick M. Coullahan, 5072d Air Base Squadron, Galena Airport, Alaska: Meritorious Achievement for Professional Excellence (military).** Captain Coullahan was cited for outstanding professional skill, knowledge and leadership that brought about dramatic improvements in the operational efficiency of the Directorate of Civil Engineering at Eglin AFB, Florida, and the Base Civil Engineering organization at Galena Airport, Alaska.

MAJ GEN A.M. MINTON AWARD
Mr Straubel Lt Cols Smith&Medlock

NCO OF THE YEAR
Maj Gen Thompson MSgt Mason

FOREMAN OF THE YEAR
Maj Gen Thompson MSgt Rohling

MERITORIOUS ACHIEVEMENT
Maj Gen Thompson Mr J. G. Smith

MERITORIOUS ACHIEVEMENT
Maj Gen Thompson Capt Coullahan

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